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Analysis of Investment Account Among Tennessee Banks, 1945-1966

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To the Graduate Council:

I am submitting herewith a thesis written by Parvez Mahmud entitled "Analysis of Investment Account Among Tennessee Banks, 1945-1966." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Economics.

Harry L. Johnson, Major Professor

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ANALYSIS OF INVESTMENT ACCOUNT AMONG TENNESSEE BANKS, 1945-1966

A Thesis

Presented to

the Graduate Council of

The University of Tennessee

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

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by

Parvez Mahmud

August 1970

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ABSTRACT

The purpose of the study was to determine the changes in the investment account of the Tennessee banks and study the underlying causes of variations and trends in the behavior of investment account management.

The data for the study was obtained from statistics compiled by the Department of Finance, The University of Tennessee. The Federal Deposit Insurance Corporation and Federal Reserve Banks publications were the other major source of data. The study was restricted to the analysis of data for the period 1945-1966.

In the analysis of data, the following relationships were observed:

1. Size of the investment account had been declining relative to total bank assets.
2. Size of the investment account had an inverse relationship to the size of banks.
3. Country banks had relatively larger investment accounts.
4. State and local bonds were claiming an increasing proportion of the investment account, whereas the share of U.S. government securities was declining.
5. Average length of maturities was declining during the period.

The observed changes in the management of the investment account were traced to a more dynamic asset management, increased profit conscious banks, changes in market structure of the debt instruments, the deposits and the loans.

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CHAPTER I

INTRODUCTION

Any economy which is growing is likely to undergo structural changes in industry, labor and capital characteristics. The direction of such an economic change may be influenced by or influence the banking system serving the economy. These changes would be reflected in the composition and relationship of the items constituting the assets and liabilities of the commercial banks.

Commercial banking is a system which accumulates, then allocates the savings of the region and directs the flow of these funds into various sectors of the economy. It also facilitates the inflow or outflow of capital from the region it is serving. Therefore, the structural features of the region's banking system--the amount and the characteristics of its assets, capital and deposits, its organization and administration, and its geographic dispersion--can either help or hinder economic growth.

I. STATEMENT OF THE PROBLEM

Before a statement of this problem is made, it seems in order to designate the meaning of the investment account. For this study the investment account includes U.S. government securities, and state and municipal bonds of all maturities held by Tennessee banks. However, it does not include bank investments in corporate securities. Part of

the investment account which can be run off as the cash position dictates, would fall into the classification known as secondary reserves. At times the discussion is carried into the area of secondary reserves because of the overlapping nature of the assets under study.

The purpose of the study is to examine the changes in the composition and the size of the investment account among Tennessee banks during the period 1945 to 1966. Specifically, an attempt will be made to analyse the composition of the investment accounts of commercial banks in the light of changing economic structure of the state and various regions within the state. The study analyses the variation in the management of the investment account according to size of banks and type of banks (state or national). The study determines the basic trends with respect to the investment account during the period 1945-1966 and it discusses the main underlying causes of the trends determined.

II. SIGNIFICANCE OF THE STUDY

Deposits with commercial banks are in a temporary trust. The banks can use these deposits to extend credit and derive the income from the lending operations. Ultimately the deposits have to be returned. It is the primary duty of the banker to protect these deposits. On the other hand, the commercial banks are the predominant financial institutions which serve as source of capital for the continuation and growth of economic activity. Banks would be failing

in their purpose if they were unable to make any significant contribution as a stable source of funds.

Banks protect deposits by maintaining high liquidity. Traditionally, the liquidity is maintained through primary and secondary reserves. Primary reserves are the first line of protection against the effects of cash outflow. Because banks want to earn income, as well as maintain liquidity, they hold high grade marketable securities which form the secondary reserves. These reserves may be used to meet the seasonal liquidity requirements. Hence, the policies of the Tennessee banks in regard to their investment policies are of great importance to the economy of the state, the deposit holders, and the financial and business community.

III. SCOPE OF THE STUDY

The study proceeds along the following lines:

1. The study starts with a short review of the Tennessee economic situation, mainly pointing out the changes in industry and agriculture.
2. It gives the salient features of the Tennessee Banking System, including both organizational and control aspects.
3. It discusses the role played by the management of the investment account with reference to various objectives of the banks and analyses the trends in the investment account for the United States and Tennessee.

4. For the purpose of analysing the management of the investment account among Tennessee banks the state has been divided into six economic regions. The geographic division is useful for relating the analysis to the distinct economic characteristics of the regions and to pinpoint the variations which might exist for the banks of a certain area. The analysis covers the period from 1945-1966.
5. An effort has been made to correlate the trends in population and income with the changes in the investment account for each of the regions and the whole of the state.
6. The impact of the bank size will be related to the trends in the management of the investment account.
7. The study gives separate treatment to U.S. government securities and state and local bonds. This indicates the movement of funds from one category to the other.
8. The study examines the basic trends with respect to the investment account during the period 1945-1966 and it also discusses the main underlying causes of the behavior of investment account.

IV. REVIEW OF RELATED STUDIES

A study of deposit accounts, asset composition and the impact of deposit changes on the earnings of Tennessee banks[1] was useful for

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[1] Duane Burnett Graddy, "Fund Management Among Tennessee Banks, 1946-1964" (Master's Thesis, The University of Tennessee, 1965).

this study. Another paper entitled Commercial Banking in Tennessee, 1948-1962,[2] reviews the trends and relationship between demand and time deposits and the thesis entitled A History of the Hamilton National Bank of Knoxville[3] studies deposit composition. Both of these were useful. Another thesis entitled Investment Banking in Tennessee[4] was mainly concerned with the legal and financial procedures employed by the Tennessee banks in the management of their loans may be mentioned.

The problem under study falls in the broad area of management of funds, but it will mainly concentrate on the management of the investment accounts of the banks in the state of Tennessee.

V. SOURCES OF DATA

The study is based on the following major sources of data:

The Federal Deposit Insurance Corporation Report: Assets, Liabilities and Capital Accounts of Commercial and Mutual Saving Banks: published semiannually by Federal Deposit Insurance Corporation, commonly referred to as FDIC report.

The Federal Reserve Bulletin: published monthly by the Board of Governors of the Federal Reserve System.

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[2]Chik-Kung Chang, "Commercial Banking in Tennessee, 1948-1962" (Master's Thesis, The University of Tennessee, 1964).

[3]Po Shin Chang, "A History of Hamilton National Bank of Knoxville" (Master's Thesis, The University of Tennessee, 1962).

[4]Curtis B. Tate, "Investment Banking in Tennessee" (Master's Thesis, The University of Tennessee, 1952).

Annual Reports: Annual Report of the Federal Deposit Insurance Corporation: referred to as FDIC annual report.

Annual Report of the Board of Governors of the Federal Reserve System.

Annual Bulletin of the Division of Banking, Department of Insurance and Banking of the state of Tennessee.

Annual Report of the Comptroller of Currency.

University of Tennessee, Department of Finance, provided most of detailed data on Tennessee banks.

VI. ORGANIZATION OF THE STUDY

This study has been divided into five parts:

Chapter I, the introduction, includes the statement of the problem, the significance of the study, review of the related studies, methods of procedures, sources of data and the organization of the study.

Chapter II deals briefly with the economic situation and growth in the state of Tennessee. This chapter also gives a survey of the existing banking system serving the state, and some of the important features in banking operations.

Chapter III gives the division of the state into six regions for the purpose of analysis. It further discusses the economic characteristics of regions and gives the analysis of the investment account for regions and the state.

Chapter IV identifies the major trends in the management of bank investment account. It further discusses the causes which explain the behavior of the investment account.

Chapter V contains summary and conclusion.

CHAPTER II

REVIEW OF TENNESSEE ECONOMIC AND BANKING STRUCTURE

I. ECONOMIC STRUCTURE

Tennessee is frequently referred to as an agricultural state. However, this impression seems to be somewhat erroneous if one looks at the personal income statistics. In 1966 the state's personal income was estimated to be at $8,611 million. The contribution from agriculture was only 3.82 percent whereas manufacturing accounted for 24.42 percent.[1]

Tennessee's total personal income in 1930 was $850 million, which had grown to $8,611 million in 1966, an increase of 934 percent. During the same period the personal income for the United States increased by 579 percent. Hence it is significant to note that the rate of growth in personal income for Tennessee was higher than that for the United States.[2] This higher rate of growth can in part be explained by small initial base. The economic growth of the state can be seen from another angle, in terms of percentage of total value added

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[1] Ormond C. Corry, Population and Personal Income Estimates: Tennessee Counties 1960-65 (Knoxville: Center for Business and Economic Research, The University of Tennessee, 1967), p. 9.

[2] Statistical Abstract for United States, 1968 (Washington: U.S. Bureau of Census, Government Printing Office, 1968), p. 320.

by manufacturing. In 1929 the total value added by Tennessee's manufacturing was 0.99 percent of United States total value added by manufactures. In 1967 the amount of value added was 1.85 percent of the corresponding United States total.[3]

The economic growth of the state has brought about considerable changes in the composition of employment and income. Agricultural employment experienced the greatest decline in importance and was followed by mining. Meanwhile, all other major employment groups grew in importance with government and service employment having the greatest relative gains while manufacturing employment made the most rapid absolute gains. In 1966, manufacturing was the largest income sector followed by trade and agriculture. Income derived from farming has fallen considerably relative to manufacturing and trade. In 1965, manufacturing and trade accounted for half of the civilian income while the agricultural sector only accounted for 5 percent.[4]

Apart from the changes in employment and income, there have been significant improvements in transportation, industrial environment, education, mobility, and efficiency of the labor force. Such changes are an indicator of the growth opportunities in the state.

Developments in Agriculture and Manufacturing

In the agricultural sector there has been a slight increase in the value of agricultural products and the size of farms, but a decline

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[3]Statistical Abstract for United States, 1969 (Washington: U.S. Bureau of Census, Government Printing Office, 1968), p. 727.

[4]Corry, op. cit., p. 24.

in acreage and farm employment during 1950-66. However, production per worker has increased. In the manufacturing sector value added has grown faster than that of the nation in spite of the fact that output per worker was still below the national average. The most important intrasectoral change has been the growing importance of nondurables, and the growth oriented nature of large manufacturing industries. The growth of manufacturing sector is still heavily dependent on capital from out-of-state sources. The investment opportunities arise mainly from low cost labor, power, and other location advantages.

Tennessee's growth of total employment ranked fourteenth among the fifty states for the period 1959-65, twelfth in 1966, and twenty-second in 1967. Among the states of the southeast, Tennessee ranked second for the period 1959-65 and seventh for 1967. This relative decline in growth is reflected in the changes in personal income. During the period 1959-65 personal income increased by 47.2 percent in southeastern states and 40.5 percent for the nation. The year 1966-67 shows an increase of 17.9 percent for Tennessee, 17.6 percent for the southeastern states and 16.1 percent for the nation. The year 1968, however, reveals a 5 percent increase for Tennessee, 10.5 percent for the southeastern states, and 10 percent for the nation.[5]

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[5]Harry L. Johnson, "The Dilemma of Usary Laws," Tennessee Survey of Business, IV (June 1969), 5.

II. TENNESSEE BANKING STRUCTURE

Dual Banking System

Each bank needs a charter to operate. A charter may be obtained from the federal government or the state government in which the bank is to be located. If the sponsors choose to take a state charter, it becomes a state bank and is controlled by state banking regulations. If the choice is to take a federal charter, the bank is classified as a national bank and a member of the Federal Reserve System. This aspect of commercial banking is unique to the United States and has implications for control and management of funds. The existence of state charter is considered a way to avoid too much centralization of the banking system. There are others who consider that dual banking system is beneficial for the competition among the banks.[6]

Tennessee Situation

The total number of banks changed from 297 to 298 during the 1950-1966 period. In 1950 out of 297 banks 222 held the state charter and 86 were members of Federal Reserve System. The number of national banks had increased from 82 to 86, while the number of state banks decreased from 225 to 222 during the period. Throughout the entire period the national banks did not constitute less than 27 percent of the total number of banks as is indicated by Table 2.1. There has not

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[6] Banking Administration (New York: American Institute of Banking, Section of American Bankers Association, 1952), pp. 29-30.

TABLE 2.1

MEMBER BANKS OF FEDERAL RESERVE SYSTEM IN THE UNITED STATES AND IN THE STATE OF TENNESSEE (1950-1966)

Year Dec. 31	Total U.S. Banks	Member of FRS	Percent of Total	Total Tenn. Banks	Member of FRS	Percent of Total
1950	14,693	6,870	46.7	297	82	27.6
1951	14,661	6,837	46.6	298	84	28.2
1952	14,617	6,795	46.4	297	84	28.3
1953	14,552	6,740	46.3	298	84	28.2
1954	14,409	6,656	46.1	297	84	28.3
1955	14,284	6,539	45.7	299	85	28.8
1956	14,208	6,458	45.4	297	82	27.6
1957	14,130	6,389	45.2	298	83	27.9
1958	14,060	6,308	45.5	298	83	27.9
1959	14,004	6,229	44.4	297	83	28.0
1960	13,999	6,171	44.1	297	83	28.0
1961	13,959	6,111	43.7	296	82	27.7
1962	13,951	6,045	43.3	294	81	27.6
1963	13,487	6,107	45.2	293	82	27.6
1964	13,675	6,224	45.2	293	83	28.0
1965	13,713	6,220	45.3	297	85	28.6
1966	13,687	6,149	45.6	298	86	28.8

Source: Annual Report of the Federal Reserve System (Washington: Board of Governors of Federal Reserve System, 1951-1966).

been any substantial change in the number of banks in each category. This state has lower percentage of national banks as compared to United States.

Banking Control

The banks are controlled both by state and federal regulations. The federal regulations mainly arise from the Federal Reserve Act, the Federal Deposit Insurance Corporation Act, and the Banking Act of 1933.

The classification of deposits is also important with regard to other legal provisions which apply to deposits. These provisions have a direct effect on the operations of the banks.

Demand Deposits are funds entrusted to a commercial bank which are withdrawable on demand by the use of a check or draft. Both the Federal Reserve Act and Federal Deposit Insurance Corporation Act describe demand deposits as a residual, "Any deposit which is payable on demand . . . includes every deposit which is not a 'time' or 'saving' deposit."[7]

Savings Deposits are funds deposited by individuals and nonprofit organizations and are evidenced by saving passbooks. These deposits cannot be held by profit making corporation or groups of individuals.[8]

Time Deposits, open accounts, are contractual deposits evidenced by a written contract and cannot be withdrawn in total or part prior to

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[7]Code of Federal Regulations, Title 12, Chapter II, Part 217 (12CFR217).

[8]Ibid.

date of maturity, which cannot be less than thirty days after inception of the deposit.[9]

Time Certificates of Deposit are evidenced by negotiable or nonnegotiable instruments. The face of the certificates contain provisions for the amount of the deposit, the date of maturity, and rate of interest accrued on the funds.

The importance of the classification effects the operations of the commercial banks specifically through Regulation Q and Regulation D.

Regulation Q

Currently, the most important article of this regulation relates to the setting of maximum rates on time deposit funds. The Board of Governors of Federal Reserve System has been empowered to adjust the maximum deposit rates from "time to time" and all member banks are prohibited from paying rates "in excess" of the legal maximum. For state nonmember banks, the Board of Directors of the Federal Deposit Insurance Corporation has the power to prescribe the rate level. The Board also defines the length of maturity to which the individual rates would be applied. The maximum rate on time deposits for both members and nonmember insured banks have been identical since February 1936. The rates since 1936 are given in Table 2.2.

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[9] Ibid.

TABLE 2.2

MAXIMUM INTEREST RATES PAYABLE ON TIME DEPOSITS

Effective Date	1 Year or More	6 to 12 Months	90 Days-6 Months	30 to 89 Days	Multiple-maturity[a] 90 Days or More	Multiple-maturity[a] 30 to 89 Days
Nov. 1, 1933	3	3	3	3		
Feb. 1, 1935	2-1/2	2-1/2	2-1/2	2-1/2		
Jan. 1, 1936	2-1/2	2-1/2	2	1		
Jan. 1, 1957	3	3	2-1/2	1		
Jan. 1, 1962	4	3-1/2	2-1/2	1		
July 17, 1963	4	4	4	1		
Nov. 24, 1964	4-1/2	4-1/2	4-1/2	4		
Dec. 6, 1965	5-1/2	5-1/2	5-1/2	5-1/2		
July 20, 1966	5-1/2	5-1/2	5-1/2	5-1/2	5	4
Sept. 26, 1966[b]	5-1/2	5-1/2	5-1/2	5-1/2	5	4
April 19, 1967[b]	5-1/2	5-3/4	6	6-1/4	5	4

Source: Annual Report of Federal Reserve System (Washington: Board of Governors of Federal Reserve System, 1968), p. 363.

[a]Effective July 20, 1966, the rates on multiple maturity deposits were reduced. Multiple-maturity time deposits include deposits that are automatically renewable at maturity without action by the depositor that are payable after written notice of withdrawal.

[b]Rate for single maturity deposit of less than $100,000 was fixed at 5 percent per annum.

Note: The data is given in percent per annum.

Regulation D

This regulation specifies the required reserves against time and demand deposits. The importance of reserve requirement lies in the fact that each produces different amounts of excess reserves and thus varying levels of secondary deposits. The reserve requirement for demand deposits is determined on the average net deposit. Net demand deposits are calculated by deducting the amount of balances subject to immediate withdrawal due from other banks (exclusive of Federal Reserve Bank) and cash it uses in the process of collection from demand deposit.[10] Table 2.3 shows the change in reserve requirements for demand and time deposits since 1933.

Federal Deposit Insurance Corporation

Federal regulation makes insurance of deposits mandatory for member banks of Federal Reserve System and optional to state nonmember banks. The latter have apparently found the risk of bank failure too great to forego the insuring of deposits. Table 2.4 shows that at end of year 1966, 295 banks out of 298 banks were insured in the state of Tennessee, or 99 percent. The total percentage insured for United States in 1966 was 98.7 percent. The use of deposit insurance has substantially reduced the bank failures which during the 1920-29 period number 66 or 12.1 percent of the total number of banks in the state of Tennessee.

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[10] Ibid.

TABLE 2.3

MEMBER BANKS RESERVE REQUIREMENTS

Effective Date	Net Demand Deposits			Time Deposits	
	Central Res. City Banks	Reserve City Bank	Country Banks	Central & City Banks	Country Banks
Feb. 27, 1948	22	20	14	6	6
Sept. 1, 1949	22	18	12	5	5
Feb. 1, 1951	24	20	14	6	6
July 1, 1953	22	19	13	6	6
August 1, 1954	20	18	12	5	5
April 4, 1958	18	16-1/2	11	5	5
Dec. 1, 1960	16-1/2	16-1/2	11	5	5
Nov. 1, 1962	16-1/2	16-1/2	11	4	4
July 21, 1966	16-1/2	16-1/2	12	4 5	4 5*
March 16, 1967	16-1/2	16-1/2	12	3 6	3 6*

Source: Annual Report of Federal Reserve System (Washington: Board of Governors of Federal Reserve System, 1968), pp. 364-65.

*For deposits over $5 million.

Note: Data is in percent of deposits.

TABLE 2.4

INSURED COMMERCIAL BANKS UNDER THE DUAL BANKING SYSTEM IN THE STATE OF TENNESSEE AND IN THE UNITED STATES (1950-1966)

Year Dec. 31	In the State of Tennessee					In the United States		
		Nat'l Banks		State Banks			National	Percent of Nat'l
	Total	No.	Percent	No.	Percent	Total	Banks	Banks to Total
1950	289	72	24.9	217	75.5	13,446	4,958	36.9
1951	291	74	25.4	217	74.6	13,455	4,939	36.7
1952	290	74	25.5	216	74.5	13,439	4,909	36.5
1953	291	74	25.4	217	74.6	13,432	4,856	36.2
1954	290	75	25.8	215	74.2	13,323	4,789	35.9
1955	292	77	26.4	215	73.6	13,237	4,692	35.4
1956	290	73	25.2	217	74.8	13,218	4,651	35.2
1957	291	74	25.4	217	74.6	13,165	4,620	35.1
1958	291	75	25.7	216	74.3	13,124	4,578	34.9
1959	290	75	25.8	215	74.2	13,114	4,530	34.6
1960	291	75	25.7	216	74.3	13,126	4,530	34.5
1961	290	74	25.5	216	74.5	13,115	4,513	34.4
1962	289	73	25.3	216	74.7	13,124	4,503	34.3
1963	289	74	25.6	207	71.6	13,621	4,615	33.8
1964	290	75	25.8	207	71.5	13,820	4,773	34.9
1965	294	76	26.2	209	71.1	13,574	4,815	35.4
1966	295	77	26.1	208	70.5	13,541	4,799	35.4

Source: Annual Report of Federal Deposit Insurance Corporation (Washington: Federal Deposit Insurance Corporation, 1951-1967).

Branch Banking

The number of banks have not changed significantly although the state has grown much during the period in population and personal income. In 1950 there were 295 banks among which 29 were operating 98 branches. In 1966 there were 298 banks with 377 branches showing an increase of 285 percent in the number of branches.[11] The increase in the number of banks during the same period was one percent. Relatively high increase in the number of bank branches reflects the changing banking structure from single branch banks to a trend towards a proliferation of branches.

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[11] Annual Report of Federal Reserve System (Washington: Board of Governors Federal Reserve System, 1951, 1967), p. 372.

CHAPTER III

ANALYSIS OF INVESTMENT ACCOUNT

For the purpose of analysis the state of Tennessee has been divided into six regions. The counties are grouped into regions on the basis of economic background and geographic location. The economic characteristics of each region will be described with the analysis of the data.

I. REGION I

This region covers Shelby County. It is mainly a business and industrial area and the farming income for this region is negligible. This region has one of the highest growth rates in the state. During the period 1950 to 1965 the personal per capita income increased by 68 percent while the population increased by 45 percent. The bank assets during the period 1945-1966 increased by 219 percent giving an annual growth of about 10 percent. In 1945 the small banks with assets under $10 million accounted for about 3.3 percent of the total banking assets. These banks also happened to be the state banks. As Table A.1 in the Appendix indicates, in 1966 the small banks held 6 percent of the total assets and had a growth of 548 percent during the period. The larger banks which also happened to be the national banks had a growth rate of 201 percent during the period. This region is characterized by growth of larger banks and this trend is continuing.

Table A.2 in the Appendix shows the U.S. government securities held by the banks in the region. There is a decline of 22 percent from $200,698 in 1945 to $156,822 in 1966. Table A.3 in the Appendix gives U.S. securities as a percentage of the total assets. There was almost a constant decline in U.S. government securities from around 30 percent in 1945 to 10 percent in 1966. The declining trend existed both in small and large banks but the large banks led the trend. The trend for state and national banks was similar.

On the other hand state and municipal bonds had growing popularity with the banks in the region. As Table A.5 (see Appendix) indicates, state and local bonds accounted for 4 percent of the total assets in 1945 which by 1966 had increased to 11 percent. Most of the increase was contributed by the large national banks. A similar but a weaker trend was present among smaller banks which also happened to be state banks.

Summing up both categories, the net result was that banks in Region I had reduced their investment account as percentage of total assets from around 37 percent in 1946 to 21 percent in 1966. Region I banks led all other regions in the state in reducing the relative size of their secondary reserve.

II. REGION II

This region consists of 21 counties of West Tennessee. The area is mainly agricultural. The population of the region remained stationary during the period 1950-1965. There was a minor decline of 17,004

persons over the period. However, the income per capita in the region grew by about 116 percent.

In 1945 all banks were classified under the $10 million category. These banks continued to be small. Table A.6 in the Appendix shows some irregular growth in the total amount of assets. During the 1945-1966 period, the total growth was 195 percent, most of which was in recent years. State banks grew at a faster rate of 245 percent as compared to 177 percent for the national banks. Table A.8 in the Appendix shows that the banks in the region held 36 percent of their assets in form of U.S. government securities at the end of 1945. In 1966, the holdings were down to 20 percent of the assets. In general, this region's banks held a larger percentage of their assets in form of U.S. government securities as compared to other regions. In Region II the state banks' holdings of U.S. securities were higher by 3 to 5 percent than the national banks. The trend on the basis of size was irregular.

On the other hand, the banks in Region II had an investment in state and municipal bonds which was 4 percent of the assets in 1945 (given in Table A.10 in the Appendix). In 1966, it was 9 percent of the assets. The national banks' holding of state and municipal bonds were generally higher by 2 to 5 percent of the assets above the state banks. Similarly the larger banks had more investment in state and municipal bonds as compared to the smaller banks.

The overall investment account of the banks in Region II had grown by 95 percent during 1945-1966. This growth is equal to the growth of any other region. However, the total investment account as a

percentage of the total assets has declined from a high of 44 percent in 1947 to 29 percent in 1966. The banks in Region II seem to have been influenced by the policies of banks in Region I, which happens to be the large metropolitan area serving the Region II.

III. REGION III

This region covers 12 counties in West and Middle Tennessee. This area is similar to Region II in that agriculture is the dominant economic sector. A glance at Table A.38 in the Appendix, showing the population of the region, would indicate that this is one of the regions with a declining population. It had a population of 176,718 in 1950, and by 1965 the population had gone down to 174,714. On the other hand the growth in per capita personal income was second only to Region V, as the data in Table A.37 in the Appendix indicates. In 1950, the per capita personal income was $688. By 1965 it had grown to $1528, a growth of 121 percent during the period. The growth was even more pronounced in the 1960's.

The bank assets in the region shown in Table A.11 (see Appendix) grew by 226 percent during the period 1945-1966, which compares favorably with the other regions in the state. In 1945, all banks in the region were classified in the category of banks with assets under $10 million. In 1966, a little less than half of the assets were held by the banks in the category $10-25 million. The banks in this category were growing at a much faster rate than the smaller banks. During the

period 1960-1966, the growth of the larger banks was 723 percent as compared to a growth rate of 71 percent for the smaller banks over the 21-year period.

In this region, the state banks had an edge over the national banks. The state banks held about 65 percent of the total assets and their growth during the 1945-66 period was 251 percent as against 191 percent for the national banks.

Tables A.12 and A.13 in the Appendix give the U.S. securities holdings of the banks in the region. The commercial bank holdings of U.S. government securities had been declining slowly. In 1966, they amounted to 22 percent of assets as compared to a high of 43 percent in 1946. These holdings had decreased as a percentage of total assets but there was an increase of $13,922,000 in absolute amount. U.S. government securities as a percentage of the total assets were not significantly different for state and national banks. However, the smaller banks with assets under $10 million were holding more of their assets in the form of U.S. government securities as compared to the larger banks in the $10-25 million classification.

The picture for the state and municipal bonds was a little different. Table A.14 in the Appendix gives state and municipal bond holdings of the banks in Region III. The total bank holdings of such assets as a percentage of total assets amounted to 4 percent in 1945. In 1966, state and municipal bonds had grown to 10 percent. In this respect the region was following aggregate trends in the state of Tennessee. In 1945, the national banks were holding about 4 percent of

their assets in the form of state and municipal bonds. Their holdings in 1966 were 8 percent of the total assets. On the other hand, the state banks were holding 3 percent of their assets in this form in 1945. By 1966, the holdings had risen to 11 percent.

The smaller banks in the region with assets under $10 million were holding 11 percent of their assets in form of state and municipal bonds in 1966. The larger banks in the category of $10-25 million had a lower rate of 8 percent.

As Table A.31 in the Appendix shows, banks in Region III had the highest growth rate of 111 percent in the investment account among all the regions. This implies that this region has a lesser amount invested in assets with higher earning power like loans. In 1966, the banks in the region had put 32 percent of their total assets in the investments account as compared to 25 percent for the whole of the state and 17 percent for Region I.

IV. REGION IV

This region consists of thirteen counties in central Tennessee. The state capital, Nashville's metropolitan area, is situated in this region. Thus, the economy of the region has reasonably large business, industrial and agricultural sectors. As Table A.39 in the Appendix shows, the population of the region has grown by 28 percent during the period 1950-65. This growth in population was 12 percent above the growth rate for Tennessee. Per capita personal income of the region is given in Table A.37 (see Appendix). Per capita income of the region

was $1103 in 1950. It had grown to $2277 in 1965, a net gain of 106 percent in 15 years. It was one percent above the growth rate for the state of Tennessee.

Table 4.16 in the Appendix gives the growth of assets by the bank size in the region. The total assets of the banks grew by 199 percent during the period 1945-1966. The national and state banks had a growth of 188 percent and 220 percent respectively. In 1966, the state banks accounted for 34 percent of the total bank assets in the region. The data indicates a trend in the region for banks to grow larger in size. The asset holdings of the banks with assets under $10 million increased by only 40 percent during the period 1945-1966, while the banks in the category of $10-25 million and $100-300 million had a growth of 249 percent and 222 percent respectively. The banks in the $50-100 million range declined by 15 percent.

Tables A.17 and A.18 in the Appendix show that the U.S. government securities had been declining in absolute amount as well as percentage of total assets. In 1966, the banks in the region had 10 percent of their assets in the form of U.S. government securities as against the high of 52 percent in 1945. This decline had been slow but more pronounced in the sixties. There is not much difference in the state and national banks as far as the investment in U.S. government securities are concerned but the state banks holdings were higher by 1 to 3 percent. Major differences in investment in U.S. securities exist among the small and large banks. Small banks with assets under

$10 million had as much as 13 percent greater investment in U.S. government securities as compared to the larger banks. Even among the larger banks, the bigger banks had about 2 percent lesser investment in U.S. government securities.

The bank holdings of state and municipal bonds in the region had grown by 550 percent during the period 1945-1966, as shown in Tables A.19 and A.20 in the Appendix. Most of the growth in this account had come in 1960's. From 1945 to 1960, the state and municipal bonds holding ranged between 4 and 5 percent of the assets, but by 1966 they had grown to 10 percent of the total assets. The state banks, in 1966, invested 11 percent of their funds in state and municipal bonds as against 9 percent by the national banks. The large banks with assets of $100-300 million and banks with assets under $10 million had 9 percent of their assets in state and municipal bonds. The medium size banks with assets of $10-100 million invested up to 12 percent of their assets in state and municipal bonds.

The total investment account for the banks of the region grew by 32 percent during the period 1945-1966. The investment account was 24 percent of the total assets in 1966, which was lowest of all regions except Region I. It was close to the Tennessee average of 25 percent.

V. REGION V

This region consists of 24 counties in Northeastern Tennessee. This area is mainly agricultural without any urban centers. It had per capita income of $538 in 1950. By 1965, it had grown by 132

percent to a per capita personal income of $1247 which was lowest among all regions. Data on population and per capita income is given in Tables A.37 and A.38 in the Appendix. During the period 1950-1965, the population of the region declined by 6 percent.

Table A.21 in the Appendix shows that the assets of the banks in the region increased by 235 percent during the period 1945-1966. This growth rate compares favorably with other regions. During the period, the state banks grew by 260 percent while the national banks had a total growth of 219 percent. In 1966, the state banks held 60 percent of the total bank assets in the region. In 1945, all banks had less than $10 million in assets. In 1966, the banks in this category were holding only 51 percent of the total assets while 49 percent of the assets were held by the banks with assets in the range of $10.25 million.

Tables A.22 and A.23 in the Appendix give the analysis of U.S. government securities held by the banks in the region. In 1966, banks in the region held 21 percent of their assets in the form of U.S. securities as against the high of 49 percent in 1946. In this region, the national banks held up to 4 percent more U.S. securities than the state banks. This situation is not consistent with the policies of national banks in other regions. As in other regions, the smaller banks held more of their assets in the form of U.S. securities as compared to the larger banks. In 1966, U.S. securities held by larger banks were 17 percent of their assets, as compared to 25 percent for the smaller banks.

Tables A.24 and A.25 in the Appendix show that the state and municipal bond holdings in the region in 1945 were 5 percent of the total assets. In 1966, the state banks invested 13 percent of their assets in state and municipal bonds as against 7 percent invested by the national banks. In 1966, the larger banks had 12 percent of their assets in state and municipal bonds as compared to 10 percent for the smaller banks.

Although the investment policies of the banks in Region V differ somewhat from the other regions, they do not differ much in the size of the total investment account, which is comparable to other regions (II and III) with similar economic background. Although this region's banks have the highest percentage of assets in form of U.S. securities, they were following the declining pattern set by the banks in all other regions. Table A.32 in the Appendix shows that in 1966 banks in the region had 32 percent of their assets in the investment account as against the high of 55 percent in 1946.

VI. REGION VI

Twenty-five counties of East Tennessee constitute this region. It also covers the metropolitan areas of Knoxville and Chattanooga. Thus, it has business, industrial, and agricultural sectors in its economy. In some respects it may be considered similar to Region IV. In 1950, this region had a per capita personal income of $995 which has grown by 99 percent to $2087 in 1965. The growth in income is close to the state growth rate. The growth of the population in the region had been rather slow and at times it had declined, giving the population

a low and negative correlation to bank assets. The total growth of the population during the period 1950-1965 was 5 percent. The data on population and income is given in Tables A.37 and A.38 in the Appendix.

Table A.26 in the Appendix shows the assets of the banks in the region. During the period 1945-1966, the assets of the banks in the region grew by 177 percent. This growth was considerably less than the growth for the state. Over the same period, the national banks of the region had a growth of 136 percent in their assets and the state banks had a growth of 299 percent. State banks accounted for 20 percent of the assets in the region in 1945, held about one-third of the assets in 1966. This trend is hard to explain as Region I and IV, which have somewhat similar economic background, had an opposite trend.

Table 3.1 shows the growth and size of the banks in the region.

TABLE 3.1

GROWTH OF BANKS IN REGION IV

Bank Category in Millions	Growth During 1945-1966 Period	Assets in Category as Percent of Total Banking Assets in 1966
Under $10	6%	9%
$10-25	213%	22%
$25-50	240%	9%
$50-100	145%	16%
$100-300	319%	44%
All banks	177%	100%

The banks with an asset size of $100-300 million were the strongest in the region with 44 percent of the assets of the region and a growth rate of 219 percent over the period 1945-1966. Next largest class of banks was with assets of $10-25 million. They held 22 percent of the total assets in 1966 and had a growth rate of 213 percent. The small banks with assets under $10 million had 9 percent of the total banking assets and a growth of only 6 percent over the period 1945-1966, putting it in the weakest category.

Tables A.27 and A.28 in the Appendix show U.S. securities held by the banks in the region. In 1966, the banks had 21 percent of their assets in the form of U.S. government securities as compared to a high of 50 percent in 1946. The investment of national banks in U.S. securities was somewhat higher than that of state banks. The large banks invested around 20 percent of their assets in U.S. securities as against 24 percent for the smaller banks. All categories of banks show a decline in the U.S. government securities portfolio.

Tables A.29 and A.30 in the Appendix give the state and municipal bonds held by the banks in the region. In 1945, the banks had 5 percent of their assets in the form of state and municipal bonds. By 1966 the account had grown to 9 percent of the total assets. It is interesting to note that the investment of banks in the category of $100-300 million had not risen above 5 percent of the assets. This is contrary to the general trend. The small and medium size banks had 9 to 14 percent of their assets in the form of state and municipal bonds.

Tables A.31 and A.32 in the Appendix give a comparison of investment accounts of regions in the state. During the period 1945-1966, the investment account in the region had grown 117 percent. In 1966, the investment account was 30 percent of the total assets, one of the highest percentages among all regions. It was 5 percent above the state average.

VII. CORRELATION OF BANK ASSETS, INVESTMENT ACCOUNT TO POPULATION AND PER CAPITA PERSONAL INCOME

Table 3.2 gives the correlation of total bank assets, investment account to population and per capita personal income. The data used for computing the correlation covers 1945-1966 period.

Growth in total bank assets for the state and regions had a high positive correlation ranging from 0.95 to 0.99. This indicates that most of the increase in the volume of banking activity could be directly related to the growth in per capita personal income. Projections of per capita personal income could be used as an indicator of the growth of bank assets. Correlation of bank assets to population shows a much larger spread. The state had a positive correlation of 0.99. Regions I and II also had a high correlation but all other regions had a low and mostly negative correlation to population. It can be explained by the irregular growth of population in those regions. Regions II, III, and IV had declining population in some years. Region VI had a nominal increase in population during the period under study.

The investment account had a positive correlation of 0.97 to per capita income for whole of the state. Correlation for the regions

TABLE 3.2

THE INVESTMENT ACCOUNT, TOTAL ASSETS' CORRELATION TO POPULATION AND PER CAPITA PERSONAL INCOME TENNESSEE BANKS

	Correlation of Total Assets To		Correlation of Investment Account To	
	Population	Per Capita Income	Population	Per Capita Income
Tennessee	0.99	0.99	0.97	0.97
Region I	0.92	0.97	0.75	0.82
II	-0.27	0.95	-0.35	0.92
III	0.05	0.97	0.04	0.94
IV	0.98	0.99	0.91	0.92
V	-0.18	0.99	-0.18	0.98
VI	-0.15	0.97	-0.80	0.92

varied from 0.82 to 0.98. Those regions which were maintaining the relative size of their investment account had higher correlation than those regions which had reduced the relative size of their investment accounts. Because of irregular changes in population in the various regions, the correlation to investment account did not show any set pattern.

CHAPTER IV

BEHAVIOR OF TENNESSEE BANK INVESTMENT ACCOUNT AND CAUSES

I. INTRODUCTION

For commercial banks the investment account represents a poor alternative to using the funds for loans and discounts. However, the building up of an investment portfolio has been forced upon most commercial banks by factors beyond their control. The purchase of investment securities is not a primary function of the commercial banks and most small banks do not have the capacity to make independent investment decisions.

Traditionally, commercial banks have looked at loans and discounts arising from commercial transactions as an outlet for the portion of assets not required for the purpose of liquidity. These commercial loans have arisen from a seasonal expansion of inventories, the financing of raw materials during the period of processing, and the marketing of crops. In other words, commercial bank credit is available, first of all, for the financing of temporary commercial requirements of a self liquidating nature over and above the requirement to be met by a normal amount of working capital. The bulk of the permanent financing capital requirements of an industry may be met by either equity or a senior loan against assets by means of a bond issue

or mortgage. The permanent financing of residential property is likely to fall within the scope of saving and mortgage banks, insurance companies, etc.

In considering the use to which deposits are to be put it is essential for the banker to analyse the character of his deposits. This is to determine what proportion may truly be called commercial and what proportion may properly be considered saving, so that the funds are employed in a manner consistent with the character of the deposits. Because of the important differences which exist between commercial deposits and saving deposits, such as likely fluctuations in amount, differences in liquidity, reserve requirements, and the differences in the cost of handling, most commercial banks are also saving institutions. If liquidity requirements, operation costs, and investment policies are based on the portion of commercial and saving departments combined, it is possible that the funds which should be invested only in commercial channels may be placed in terms suitable for saving deposits.

The banks use a part of the funds available for secondary reserves, the funds which are surplus and not tied to loans, etc., in the investment account to obtain at least a minimum rate of return. The use and necessity of having both earning power and liquidity from bank assets seem diametrically opposed to each other. This, however, is inherent in the banking system because of the bankers' responsibility towards depositors, the community, and the stockholders.

Responsibility to Depositors

The first responsibility of the banker is to protect its depositors. The bank has an obligation to pay out the deposits when directed by the depositor according to the terms of agreement controlling the deposits. This necessitates not only that the deposits be protected against loss, but that the assets in which they are invested be sufficiently liquid. This requires that bankers give greater attention to the liquidity of bank assets than to the earning power of the assets.

Responsibility to the Community

The bank has a duty to provide efficient and adequate banking services to the community in which it operates. This includes creating new loans which impair bank liquidity. If a bank is to contribute to the growth of the community, it cannot be conservative.

Responsibilities to the Stockholders

Stockholders in a bank take the ultimate risk of the business. For this risk they need to be compensated in the form of dividends and steady growth in the value of their stock. The earning power of the assets is the major interest of this group.

Thus we see the banks caught between the aims of maximizing earnings, and providing protection for depositors through liquidity. How much protection is desirable? There are banks which cater to both extremes. In later sections of this study it shown how the direction of bank policy changes over extended periods of time.

In the preceding chapter, the discussions were related to various geographic regions of Tennessee. In this chapter the major trends are identified by comparing the regional and state statistics and followed by a discussion of factors causing the changes.

II. SIZE OF THE INVESTMENT ACCOUNT

The relative size of the investment account has contracted considerably since 1945. Table 4.1 is a summary of changes in the investment account.

TABLE 4.1

INVESTMENT ACCOUNT BY REGIONS AND THE STATE

	1945	1950	1955	1960	1966
Tennessee	50	33	31	28	25
Region I	37	24	22	21	21
II	40	36	34	33	29
III	47	34	35	32	32
IV	57	30	29	29	24
V	58	44	36	35	32
VI	53	42	39	31	30

Note: Data in percent of total assets.

Differences in size and rate of change in the investment account existed between the various regions but one change is clear and common to all--the decline of the relative size of the investment account for banks in all regions. In 1945, Tennessee banks were investing 50

percent of the total assets in U.S. government securities and state and local bonds. The size of these assets had declined to only 25 percent of the total assets by 1966. This is a substantial outflow from the investment account and the full impact of the change can be felt only by analyzing the changes in other assets.

Table 4.2 shows the changes in the composition of assets of the insured commercial banks in Tennessee.

TABLE 4.2

COMPOSITION OF ASSETS OF INSURED COMMERCIAL BANKS IN TENNESSEE

	Earning Assets		Nonearning Assets
	Investments Including Corporate Securities	Loans and Discounts	Cash, Due from Other Banks and Miscellaneous Assets
1945	53	19	28
1950	41	33	26
1955	29	40	31
1960	30	46	24
1965	30	46	26
1967	35	48	17

Source: Annual Report of the Federal Deposit Insurance Corporation (Washington: Federal Deposit Insurance Corporation, 1946-1968).

The proportion of loans increased from 19 percent in 1945 to 48 percent in 1967. Meanwhile the investments had been declining. There is a clear and direct inverse relationship between size of loans and the amount of investments. Although there have been changes in bank

nonearning assets (cash, due from other banks, and miscellaneous assets), one cannot establish an individual link to investments. The relationship between loans, investments and liquid assets is basically complementary in nature.

The increased demand for private credit can be traced to rapid economic growth. This changing economic environment for banks required a new asset management policy which would increase the flow of funds to loans. The new approach to asset management is summarized by one author:

> The earlier view was that commercial banks should limit themselves to short term, self liquidating and readily shiftable assets. . . . This relatively static approach has given way to dynamic "conversion of funds" approach, with loan demand receiving priority after primary reserves have been provided for. Funds in excess of primary and secondary reserves and loan requirements are invested in marketable securities.[1]

According to the new assets management approach the size of loans and liquid assets are independently determined; therefore, the size of investments would be residual. Larger volume of loans would leave smaller volume of funds for the investment account.

The ratio of loans to deposits is widely used in bank asset management. According to one study, the ratio favored by banks ranged from 45 to 80 percent, with three-fourths favoring a maximum of less than 65 percent and one-third less than 60 percent.[2]

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[1] Jules I. Bogen, Changing Composition of Bank Assets (New York: Graduate School of Business Administration, New York University, 1961), p. 43.

[2] Ibid., p. 10.

The banks in Tennessee have considerably increased their loan deposit ratio as shown in Table 4.3.

TABLE 4.3

CHANGES IN LOAN DEPOSIT RATIO AMONG TENNESSEE BANKS

Year	Loan Deposit Ratio
1945	19.9
1950	40.0
1955	43.2
1960	50.8
1965	57.3

Source: Annual Reports of Federal Deposit Insurance Corporation, 1945-1965 (Washington: Federal Deposit Insurance Corporation, 1946-1966).

High credit demand during the period has led to higher interest rates. The higher the interest rates are, the higher is a bank's loan-deposit ratio.[3] Higher loans for bank asset management means a lower investment account. The portfolio size is determined by deposits (net of required reserves) plus capital accounts less business loans.[4] The more rapid growth of loans as compared to deposits during the period required an additional source of funds to meet the demand for loans. This additional source of funds was found in the declining size of the investment account.

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[3]Stanley M. Benson, "An Empirical Analysis of Bank Lending Behavior," Yale Economic Essays, I (Fall 1965), 313.

[4]David T. Hulett, "A Short Run Model of Commercial Bank Portfolio Behavior," Doctoral Abstract, The Journal of Finance, XXII (September 1967), 488.

The risk associated with the quality of the assets would be another factor to be considered in bank asset management. The overall quality of business loans extended by commercial banks has improved considerably. Also, the purchases of state and local tax-exempts have been concentrated in highly rated issued.[5] Figure 4.1 on the following page gives the relationship of risk assets (loans, discounts, and investments other than U.S. government securities) and total assets of Tennessee banks. It indicates a substantial increase in the proportion of risk assets. It shows the changing attitudes of banks towards risk. The increase in risk assets would naturally lead to a decline in U.S. government securities. Increased mobility of financial resources is one of the factors which keeps the banks' lending capacity fully utilized.

Banks appear to have become more profit oriented, i.e., basing to a greater extent their decisions on cost and yield considerations. Banks, in their quest for profits, have entered into new lending areas such as municipal bonds and mortgages. Recently, bank credit cards and a practice similar to overdraft checking have been started. Thus the holdings of U.S. government securities by banks reached a low level.[6]

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[5]Bogen, op. cit., p. 41.

[6]Leonard C. Anderson and Albert E. Bergen, "Asset Management and Commercial Bank Portfolio Behavior, Theory and Practice," The Journal of Finance, XXXIV (March 1969), 220.

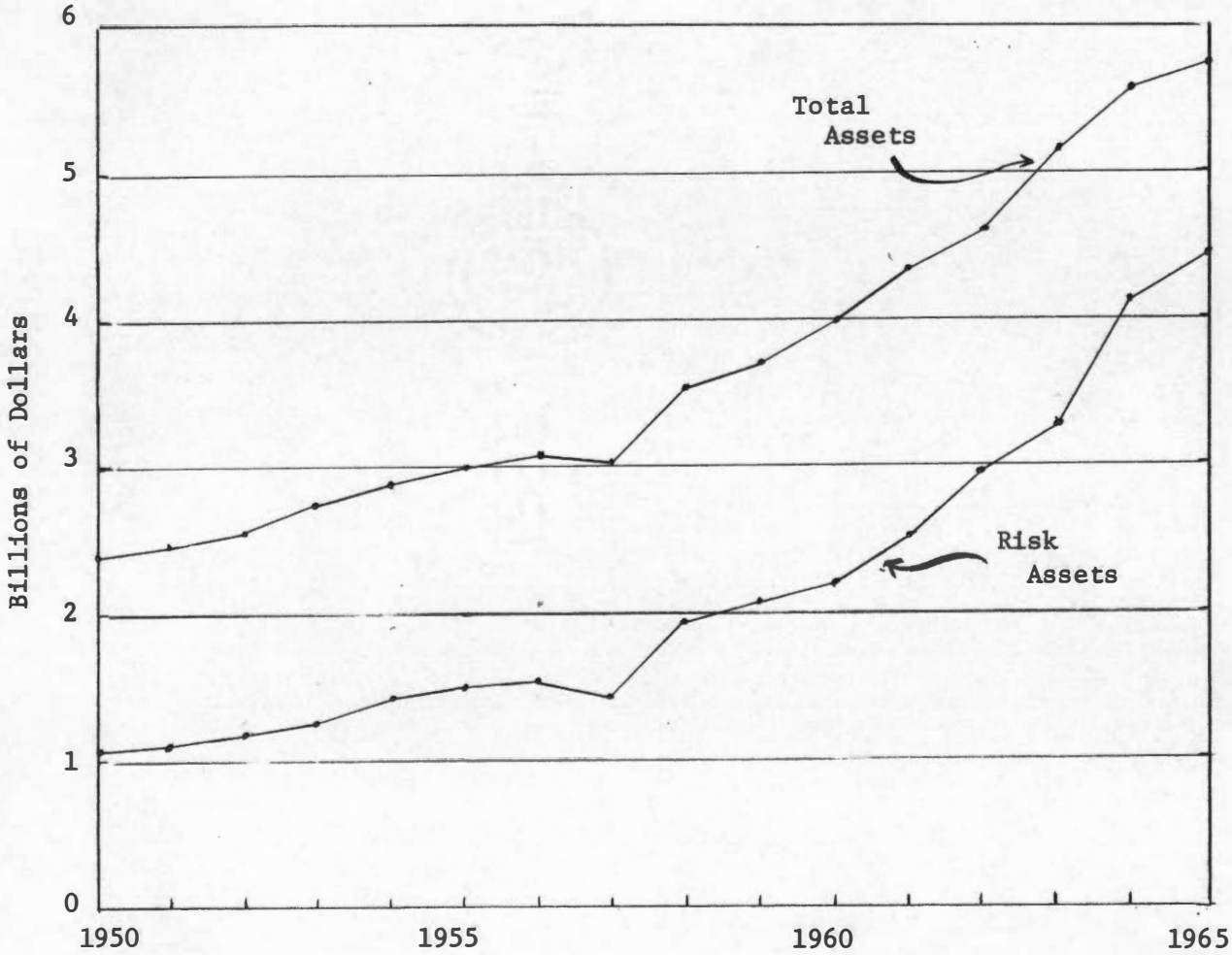

Figure 4.1. Relationship of risk assets to total assets (insured Tennessee banks).

The need to have a target income level to meet the rising interest payments on time deposits is another reason for change in asset composition. The rising level of interest rates creates two problems for the banks. First, there is the need to raise the yield on earning assets in order to meet the higher cost of funds. Second, they need more income to offset the capital losses on existing investments because of the lower prices of the securities.

Table 4.4 compares yields on the investments and the interest rate paid on time deposits by Tennessee banks. The data indicates that the interest paid is rising faster than the yields on investments. If capital losses arising from increasing interest rates were to be included the yield on investments would be much lower. Such a situation would call for shifting funds from low earning assets to higher yield assets. Advancing more loans would be one of the alternatives. The result would be a smaller investment account.

TABLE 4.4

INTEREST PAID ON TIME DEPOSITS AND INCOME EARNED ON INVESTMENTS--TENNESSEE INSURED BANKS

Year	Rate of Income Earned on Investments %	Rate of Interest Paid on Time Deposits %
1946	1.55	1.03
1950	1.95	1.13
1955	2.18	1.92
1960	2.91	2.80
1965	3.81	3.71
1966	3.80	3.80

Source: Annual Report of Federal Deposit Insurance Corporation (Washington: Federal Deposit Insurance Corporation, 1947-1967).

The causes of the decline in the investment account are summarized below:

1. Rapid expansion of demand for private credit.
2. Profit conscious managements.
3. Increased capacity to take risk in assets management.
4. Need for higher income.

III. RELATIONSHIP OF BANK SIZE TO THE INVESTMENT ACCOUNT

Tennessee Banks have grown greatly in size since 1945. Table 4.5 gives the changes in the investment account of banks of various sizes.

TABLE 4.5

INVESTMENT ACCOUNT BY SIZE OF BANKS

Bank Size Assets in Millions of Dollars	Percent of Total Assets				
	1945	1950	1955	1960	1966
Under 10	50	37	35	33	32
10 - 25	51	37	32	31	30
25 - 50	--	27	24	30	26
50 - 100	--	35	38	32	32
100 - 300	--	25	30	26	24
300 - 800	--	--	20	24	20
All Banks	51	33	31	28	26

The data indicates that as banks grow in size they tend to have a smaller investment account. The banks in the $50-100 million size do

not fit this general tendency very well. They are usually large rural banks. Despite this exception, one can hypothesize that there is an inverse relationship between size of bank and size of the investment account.

It can be pointed out at the very outset that large banks and small banks operate in a somewhat different market, and have a different cost structure. The large banks on the average face a higher reserve requirement on the deposits. The country banks which generally fall in the category of small banks have a lower reserve requirement. This leaves a larger proportion of total assets of smaller banks available for investments and loans. The large banks have a relatively smaller proportion of total assets to put in loans and investments. This difference can be observed in the composition of assets given in Table 4.6.

Table 4.6 further indicates that larger banks on the average pay a higher rate of interest on time deposits. Under such circumstances, if large banks have to maintain a high rate of return on capital invested, they need to invest a higher proportion of the balance in higher yield assets like loans and discounts. Thus large banks are left with smaller amounts of funds for the investment account. The effort of large banks to increase the loans is evident from a higher percentage of net losses on their loans.

The ability of smaller banks to invest in higher risk loans is limited by a lower capacity to absorb losses and instability of financial resources. The smaller number of loans and deposits, lower liquidity and higher level of deposit variability in small banks

TABLE 4.6

INSURED COMMERCIAL BANK--TENNESSEE, ASSET COMPOSITION AND OPERATING STATISTICS, 1967

	Bank Classified by Deposit Size (millions)				
Percent of Total Assets	Under 5	5-10	10-25	25-100	Over 100
Cash and due from other banks	15.3	12.9	14.7	15.2	21.1
Investments	37.2	37.7	33.2	29.1	23.6
Loans and discounts	45.6	47.3	49.9	53.8	52.3
Other assets	1.5	1.8	0.1	0.2	1.1
Net operating earnings/ capital A/c	13.78	15.47	15.78	17.10	16.66
Net operating earnings/ total assets	1.23	1.27	1.16	1.29	1.17
Dividends declared as percent of capital account	2.51	2.42	2.87	3.20	3.18
Net losses on loans percent of loans	0.10	0.14	0.17	0.16	0.16
Interest paid percent of time deposits	3.45	3.58	3.69	3.63	3.79

Source: Bank Operating Statistics, 1968 (Washington: Federal Deposit Insurance Corporation, 1969), Section 41.

considerably increase the risk of investment in loans and discounts. These views are supported by study of banks in the Tenth Federal Reserve district.[7] These considerations seem to induce small banks to increase their secondary reserves.

Similar conclusions are indicated in another study by Stanley M. Benson:

> The hypothesis that the larger is a bank, the higher is its loan default and deposit loss as bank size increases clearly affect the portfolio selection policies of commercial banks.
>
> It appears that scale economies in banking are important. Large banks are willing to hold a larger proportion of their portfolios in loans than are small banks. This result has a number of interesting implications. If an increase in reserves is confined to large banks, the resulting increase in loans is likely to be far greater than it would be if the increase in reserves accrued mainly to small banks.[8]

IV. THE INVESTMENT ACCOUNT OF COUNTRY BANKS

This study indicates that the banks operating in rural areas tend to have a larger investment account relative to banks operating in urban centers.

The basic reasons for this trend is the same which explains the relationship of bank size and the investment account. Most of the country banks are small, dependent on just agricultural sector for their

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[7] Lyle E. Gramley, Scale Economies in Banking (Kansas City: Federal Reserve Bank of Kansas City, 1962), p. 53.

[8] Benson, op. cit., p. 312.

activity. This lack of diversification makes banking operations more risky and the management of assets less flexible. The reserve requirements for country banks being lower than that of city banks means that they do not need large amounts of primary reserves. Putting funds in the investment account is the best alternative available. Even though there may be a demand for loans expansion, country banks are not likely to expand their loans to the same degree as city banks because of their inflexible risk situation.

A glance at Table 4.7 which gives the loan deposit ratios and the size of the investment accounts relative to earning assets, indicates that in 1950 the differences between city and country banks were not significant. Since then the structure of banking in metropolitan areas has changed considerably. The city banks have grown in size and there has been a large increase in the number of branches--from 29 in 1950 to 377 in 1966. The problem again comes to differences in the size of banks. According to Benson,

> The hypothesis that agricultural banks hold smaller proportions of their portfolios in loans than do other banks is rejected. The observed differences between the portfolios of agricultural and nonagricultural banks are apparently explained by differences in bank size.[9]

Banks in agricultural areas are dependent on a single sector and their fortunes fluctuate with agriculture, and in addition, if the bank is small, the deposits are likely to be very unstable. The more

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[9] Ibid., p. 312.

unstable the sources of funds of a bank are, the larger the proportion of its portfolio that it need hold in form of secondary reserves and the smaller the amount of lending it may undertake.

TABLE 4.7

SELECTED ASSET RATIOS OF SMSA BANKS

		Loan Deposit Ratio		Investment to Earning Assets	
		SMSA	Rest of Area	SMSA	Rest of Area
Chattanooga	1950	32	33	58	57
	1965	57	42	32	48
Knoxville	1950	25	31	66	61
	1965	50	50	42	44
Nashville	1950	44	45	43	46
	1965	60	55	32	41

Source: Sixth District Economic Statistics (Atlanta: Federal Reserve Bank of Atlanta, 1966), p. 32.

V. COMPOSITION OF THE INVESTMENT ACCOUNT

Apart from the decline in the size of the investment account, the relative size of U.S. government securities, and state and local bonds has been changing. The data on this aspect of composition of the investment account is summarized in Table 4.8.

The table indicates a substantial decline in the size of U.S. government securities and an increase in state and local obligations.

TABLE 4.8

COMPOSITION OF INVESTMENT ACCOUNT
ALL TENNESSEE BANKS

	Percent of the Total Assets		
	U.S. Government Securities	State and Local Obligations	Investment Account
1945	48	4	51
1950	29	4	33
1955	26	5	31
1960	22	6	28
1966	16	10	25

Note: Data does not add because of rounding errors.

Figure 4.2 gives a clear picture of the trends of U.S. government security holdings in Tennessee banks. The U.S. government security holdings show a regular decline from 48 percent in 1945 to less than 20 percent of the total assets in 1966. However, it still showed increase in absolute amounts after 1950. The sharp increase in holdings of U.S. government securities in 1953-1954 and 1957-1958 can be expalined by the movements of business cycle. During the periods of expansion which followed, the holdings were reduced. The overall trend, however, remained unchanged. It must be mentioned again that this trend could not have continued indefinitely because banks hold various forms of deposits against which they are required to hold U.S. government securities.

The growth of state and local obligations held by Tennessee banks is indicated by Figure 4.3. It shows a continuous and growing interest

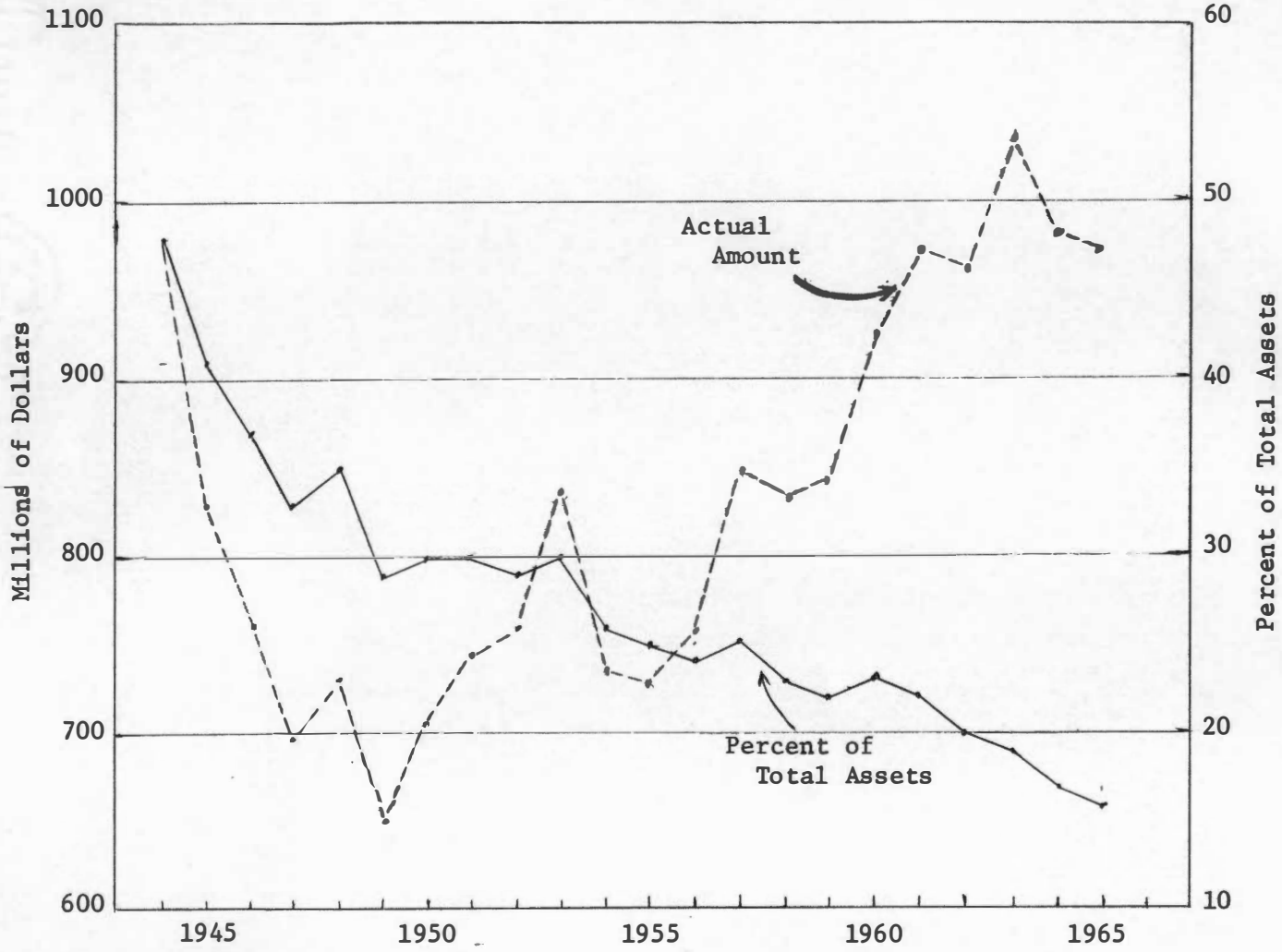

Figure 4.2. Growth of U.S. government securities held by Tennessee banks.

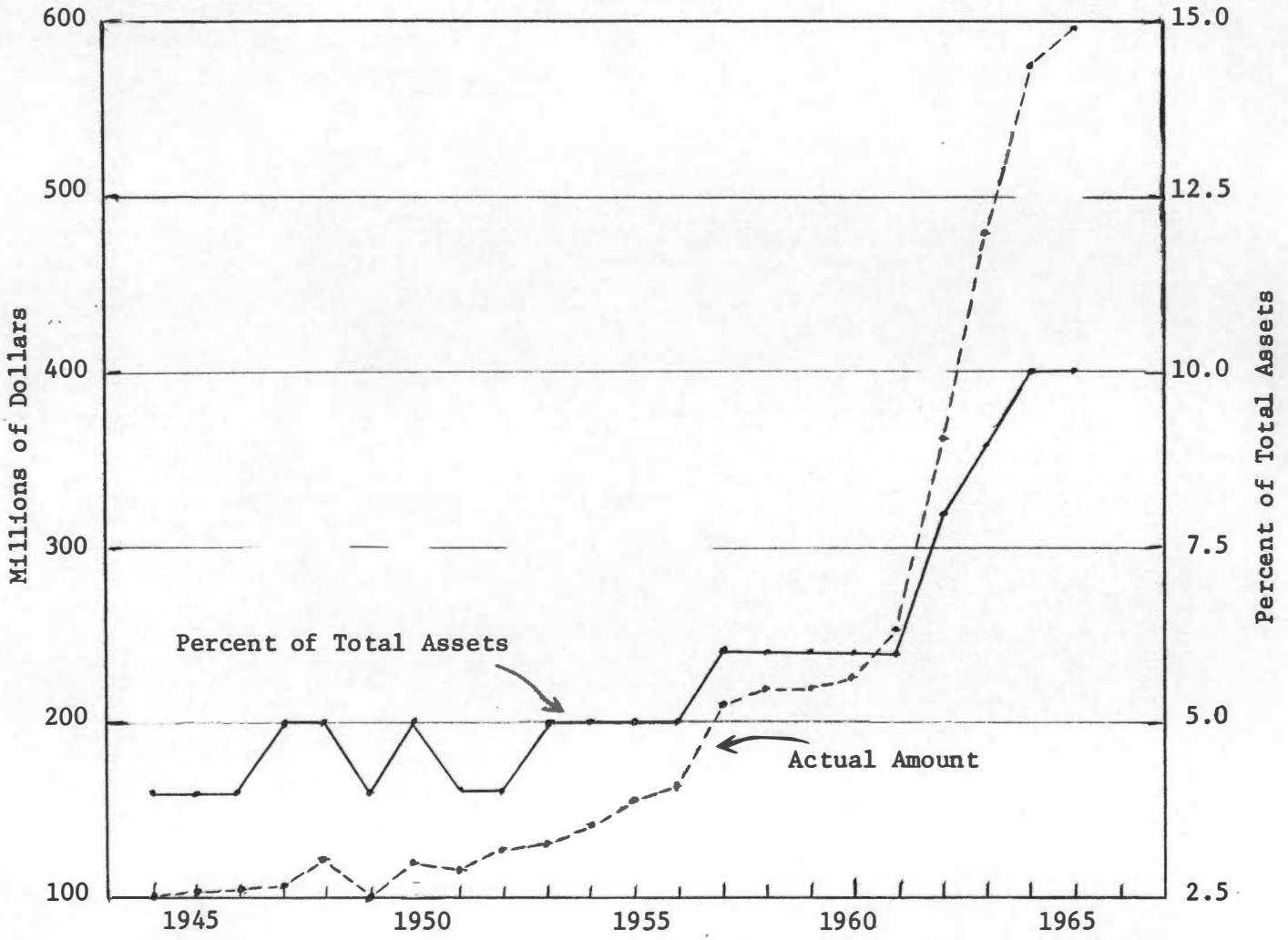

Figure 4.3. Growth of state and local bond holdings of Tennessee banks.

of Tennessee commercial banks in state and local obligations. To understand the cause of this shift from U.S. government securities to state and local obligations one needs to study their market and characteristics which make securities desirable for investment portfolio. The following discussion examines the two types of securities in some detail to bring out their salient characteristics.

U.S. Government Securities

A major portion of the investment account is composed of U.S. government securities. Therefore, a discussion of their structural composition would be in order. This form is composed of several distinct securities. These issues are defined by the length to maturity. They are as follows:

1. Treasury bills,
2. Certificates of indebtedness,
3. Treasury notes,
4. Treasury bonds.

The most important holders of federal debts are the Federal Reserve Banks, commercial banks, nonfinancial corporations, foreign accounts, nonlife insurance companies, and security dealers. All of these investors hold a certain portion of U.S. government securities to provide liquidity. The remainder of their holdings represent the temporary investment of what would otherwise be temporary idle funds.

Supply of U.S. Government Securities

The supply of various debt instruments have considerable influence on the composition of securities held by financial institutions

and household sector. In 1929, the public debt and guaranteed issues totaled $16.3 billion, by 1940 this debt had increased to $50.9 billion, and by the end of World War II the level of debt approached $285 billion. During the 1946-1966 period, there were only six years in which the level of debt was reduced and many of these reductions were small in relation to total size of the debt. Increases in the public were more frequent and much larger than the decreases. Congress, in 1959, imposed a debt limitation of $285 billion. However, before the end of that year and since that time the level of debt has stood well above $285 billion. Congress continues to approve temporary increases in debt limitation. During the 1961-1965 period the annual increases in public debt and guaranteed issues averaged $6.2 billion.

Demand for U.S. Government Securities

There are four basic considerations underlying the banks' demand for U.S. Government securities.[10] One, part of their holdings represent temporary underwriting support. Two, banks must provide for liquidity in order to meet deposit withdrawals and to respond quickly to increases in the demand for bank loans. Three, a major portion of the banks' holding represents collaterial against public deposits, repurchase agreements and advance from the Federal Reserve Banks. During the periods of tight money policy, virtually all of the banks' total

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[10] James B. Ludke, The American Financial System (Boston: Allyn and Bacon, Inc., 1967), p. 496.

holdings of U.S. government securities may be pledged as collateral. Four, because banks are conscious of yield, when the spread between government securities and other debt instruments narrows the banks are motivated to increase the government securities' portion of their investment accounts. Also, the inclusion of these securities in their investment account lowers the overall risk of investments.

Table 4.9 shows the ownership of U.S. Government securities at the end of 1965. Commercial banks were the most important institutional investors, followed by the State and local governments, nonfinancial corporations, savings and loan associations, and nonlife insurance companies.

TABLE 4.9

U.S. GOVERNMENT SECURITIES, END OF 1965

	Billions of Dollars	Percent
Total Outstanding	271.0	100.0
Household	78.6	29.0
Commercial banks	65.4	24.1
Monetary authority	40.8	15.1
State and local government	24.5	9.0
Nonfinancial corporations	16.2	6.0
Others	45.5	16.8

A review of the data given in Table 4.10 on the annual flows of funds into U.S. government securities indicates a net outflow of

considerable size in each of the three years on account of commercial banks. A large part of the inflows can be attributed to the household sector and the Federal Reserve. The banks' flows into and out of U.S. government securities are more volatile than any other major financial flow. During the 1957-1958 recession, banks increased their holdings of U.S. government securities at an annual rate between $10 and $11 billion and during the priod of expansion that followed the banks reduced their holdings at the annual rate of $4 billion in the first year and $6 billion in the second year. Such a sell-off could not continue indefinitely because banks hold various types of deposits against which they are required to hold U.S. government securities.[11]

TABLE 4.10

ANNUAL FLOWS INTO U.S. GOVERNMENT SECURITIES, 1963-1965

Source	1963		1964		1965	
	$	%	$	%	$	%
Total net issues	5.2	100.0	6.2	100.0	4.1	100.0
Households	3.7	71.5	2.1	33.9	3.0	73.2
Commercial banks	-2.6	(50.0)	-.5	(8.1)	-3.0	(73.2)
Federal Reserve	2.8	53.9	3.5	56.4	3.7	90.2
Corporate business	.4	7.8	-1.5	(24.1)	-2.15	(51.2)
State and local governments	.7	13.5	.4	6.5	2.4	58.5
Others	.3	5.8	2.2	35.5	-1.0	(24.4

Source: Flow of Funds, Assets and Liabilities, 1945-1965 (Washington: Board of Governors of Federal Reserve System, Division of Research and Statistics, 1966), p. 81.

[11] Ibid., p. 497.

State and Local Bonds

State and local bonds have two characteristics which are significant for their inclusion in the investment protfolio of a bank. They may be used to secure the deposits of local public funds. If so employed, they cannot be considered a part of the secondary reserves of a bank and cannot be released for sale by a withdrawal of the funds which they secure unless other similar bonds are substituted for them. Therefore, this type of bonds would be useless for liquidity.

The second most important characteristic of state and local obligations is their tax exempt status. The interest earned on these bonds is exempt from federal corporate and personal income taxes thereby making this form of income very attractive to investors subject to relatively high tax rates.

Some of the short and intermediate term state and local obligations serve as liquidity substitutes for U.S. government securities. This, however, depends on their marketability. As far as safety is concerned, state and municipal bonds are next to U.S. government securities. This is probably true of these bonds as a class but it must be remembered that there are exceptions. It would be justifiable to say that certain foreign and domestic corporate bonds are much safer than low grade municipal bonds, particularly many special assessment municipal bonds.[12]

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[12]Paul M. Atkins, Bank Secondary Reserve and Investment Policies, (New York: Bankers Publishing Company, 1930), p. 99.

Supply of State and Local Obligations

Between 1946 and 1965, the expenditures of state and local government increased more than six times, and approximately one-half of their capital expenditures were financed by borrowing. During this period, the level of state and local debt increased almost seven times. This rapid rise in expenditures and debts reflected an effort on the part of these governments to catch up on the Second World War postponements of capital outlays and to meet the needs and desires of a larger and wealthier society. The annual issues of state and local securities (new capital and refunding) are presented in Figure 4.4. The rapid increase in the supply of these debt instruments has a definite impact on the composition of the investment account of various banks. Increased investment in state and local bonds would leave a smaller proportion of funds available for investment in U.S. government securities.

Demand for State and Local Obligations

Table 4.11 shows the ownership of state and local bonds at the end of 1965. A cursory view of the data indicates that virtually all of the total demand for state and local obligations is concentrated in three sectors: household, nonlife insurance, and commercial banks. At the end of 1965, these investors held almost 90 percent of the total state and local obligations outstanding.

Commercial banks are the single most important class of institutional investors in state and local obligations. At the end of 1965,

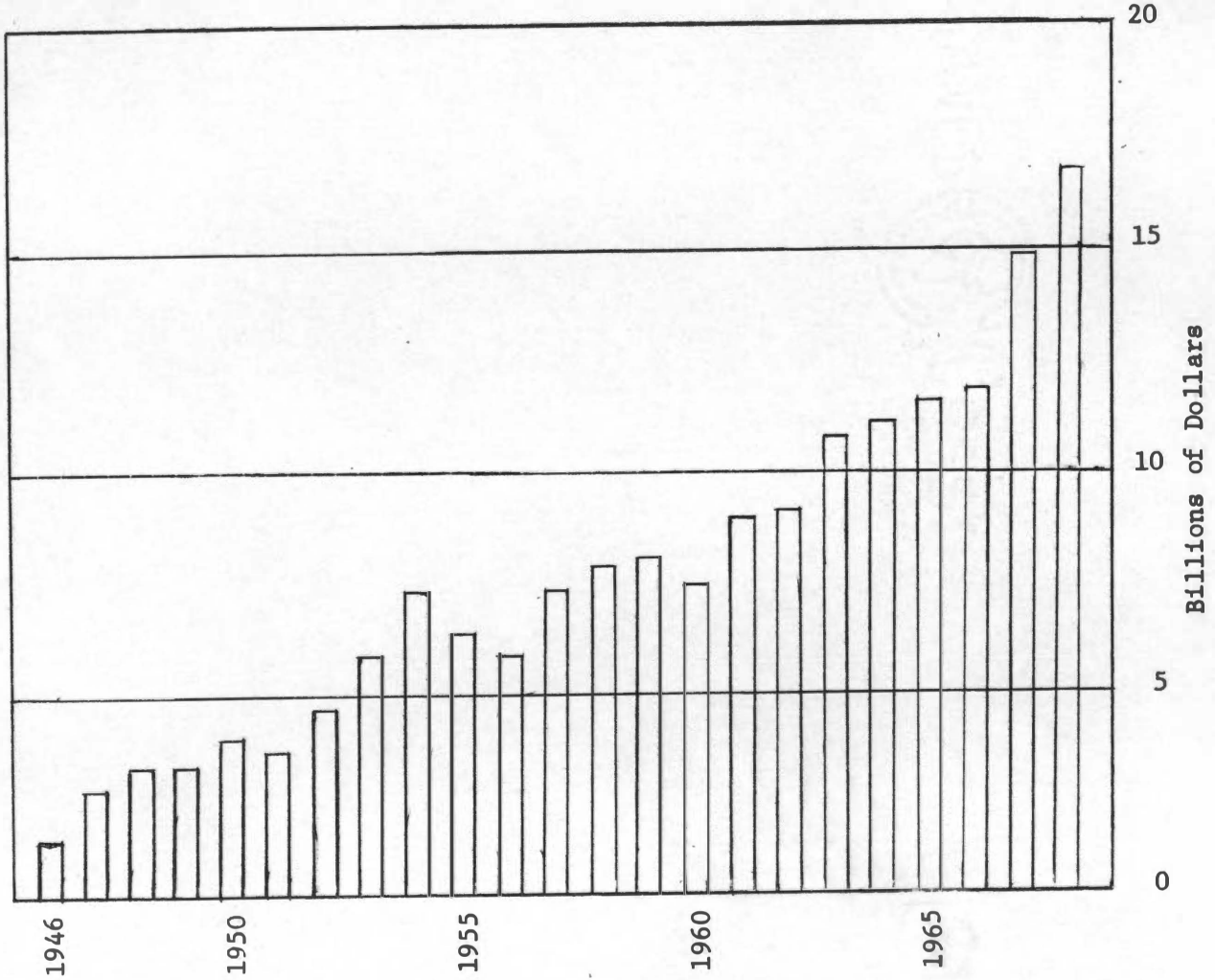

Figure 4.4. Supply of state and local bonds.

TABLE 4.11

STATE AND LOCAL OBLIGATIONS OUTSTANDING,
END OF 1965

	Billions of Dollars	Percent
Total Outstanding	101.1	100.0
Household	40.5	40.1
Nonlife Insurance Companies	11.0	10.9
Commercial Banks	38.2	37.8
Others	11.4	11.2

Source: Flow of Funds, Assets and Liabilities, 1945-1965 (Washington: Board of Governors of Federal Reserve System, Division of Research and Statistics, 1966), p. 57.

the commercial banks held almost two-fifths of the total amount of state and local obligations outstanding, and this form of investment represented 11.5 percent of the banks' total financial assets and more than one-third of banks' total holding of securities.

The importance of the commercial banks' interest in state and local obligations can be gauged from the annual flows given in Table 4.12. During the period 1961-1965, the commercial banks' annual flow accounted for 50 percent or more of the total flow of funds into this market. In the year 1963, the banks' share of the total financial flows reached 70 percent.

The banks' activity in this market is directly related to the development in the market for negotiable certificates of deposits. Banks must invest funds in instruments that provide return equal to or greater than the rate being paid on certificates of deposit.

Since commercial banks are taxed at the same rate as corporations, their after-tax returns from tax exempt securities is higher than the return from U.S. government securities or corporate bonds. Some of the holdings may be explained in terms of local pressure to invest in bonds issued by authorities in the area served by the banks. The quality of bonds purchased under pressure may sometimes be slightly lower than the banks would desire, but as long as such investments are a very small proportion of the total assets, they do not pose a serious problem.

The yields on different bonds is one of the important factors in determining the choice of securities. State and municipal bonds are very attractive because of their tax free income. This hypothesis can

TABLE 4.12

ANNUAL FLOWS INTO STATE AND LOCAL OBLIGATIONS

Source of Flows	1963		1964		1965	
	$	%	$	%	$	%
Total Net Flow	7.4	100.0	6.4	100.0	8.0	100.0
Household	1.6	21.6	2.6	40.6	3.7	46.3
Nonlife Insurance Companies	.8	10.8	.2	3.1	.2	2.5
Commercial Banks	5.2	70.3	3.6	56.3	4.7	58.8
Others	-.3	(4.1)	.1	1.5	-.6	(8.9)

Source: Flow of Funds, Assets and Liabilities, 1945-1965 (Washington: Board of Governors of Federal Reserve System, Division of Research and Statistics, 1966), p. 79.

Note: Data in billions of dollars.

roughly be tested by comparing the yield differentials and the flow of funds. Figure 4.5 gives the yield differentials between state and municipal bonds and U.S. government securities. It also shows the flows into state and local bonds as a percentage of the total flow into the investment account for Tennessee banks.

Figure 4.5 indicates that there was a larger flow into state and municipal bonds whenever there was an increase in the differential between the state and municipal bonds and U.S. government securities. Stable or smaller flows into state and local bonds during the periods 1953-1954, 1957-1958, and 1960-1961 coincide with the recessionary conditions obtaining in the economy. During recessionary periods banks tend to shift their funds to lower risk investments, i.e., U.S. government securities. The yield spread between state and local obligations, on an after tax basis, and U.S. government securities has narrowed after 1961 probably due to high demand. Another reason which makes the commercial banks overly conscious of yields is the growth of time deposits. The banks must earn more income than they pay as interest on time deposits to be profitable. The banks seem to have become more profit oriented. In their quest for profits, banks have entered not only such areas as state and municipal bonds but also mortgages. Holdings of U.S. government securities are being drained.[13]

To summarize the discussion it can be said that commercial banks in Tennessee have increased the relative size of state and local bonds

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[13]Anderson, op. cit., p. 220.

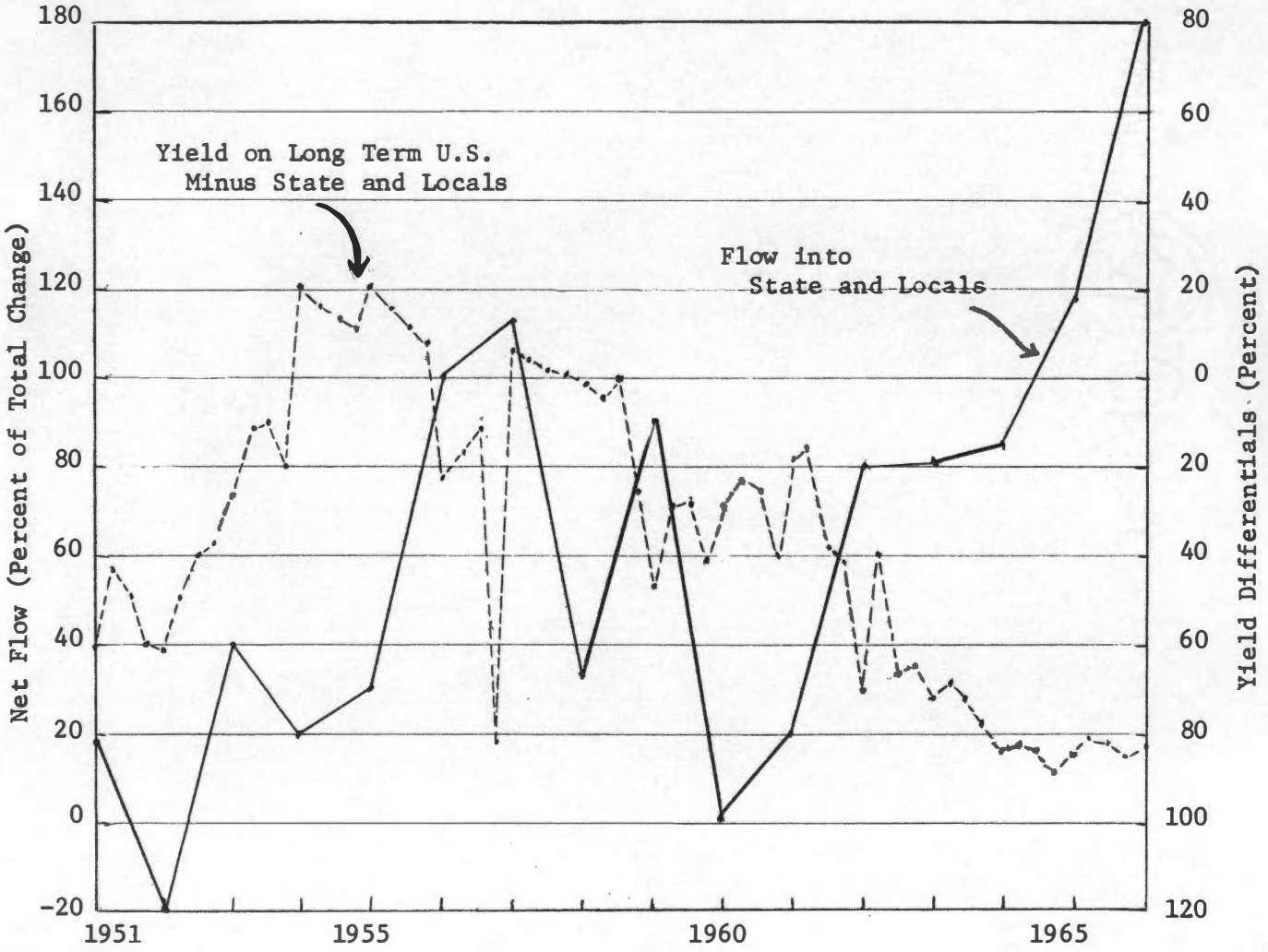

Figure 4.5. Influence of yield on portfolio selection--Tennessee banks.

in their investment portfolio. The reasons for this change in the composition of the investment can be attributed to:

1. Commercial banks willingness to invest an increasing proportion of their total assets in risk assets. A glance at Figure 4.1, page 43, would clearly indicate the changing attitude of banks with respect to asset management. They are putting a larger proportion of their assets in loans and risk investments.
2. Banks have become very conscious of the profits and yield on investments. The flow of funds are closely related to the movement of yield on various securities, as shown by Figure 4.5. State and local bonds are specially attractive because of their tax free status.
3. Figure 4.4, page 60, indicates a rapidly growing supply of state and local bonds. Broader market in state and local bonds makes them more attractive.
4. Long periods of booming economic conditions without any deep recession encourages investment in higher risk securities. Growth in state and local bond holdings occurred mainly during the 1960's, a period of booming economy. Threat of recession leads banks to shift a part of their investment to less risky U.S. government securities.

VI. MATURITY COMPOSITION OF U.S. GOVERNMENT SECURITIES HELD BY TENNESSEE BANKS

National banks in Tennessee have decreased their average length of maturity of U.S. government securities. Table 4.13 indicates that in categories of five to ten years, and over ten years, maturity decreased by 51 percent and 42 percent respectively during the 1950-1966 period. Short term securities under five years have increased by 36 percent.[14] The overall growth of U.S. government securities was only $147,089 over the 1950-1966 period as shown by Table 4.13. Most of the increase occurred in the category with maturity under 5 years. The investment in securities with over 10 years maturity actually declined by $7,618,000. The investment in securities with a five to ten year maturity period varied considerably, having the maximum of $252,268,000 in 1954 and low of $37,019,000 in 1961. The total increase in the category, over the period, was $24,568,000.

The growth change in maturity composition of U.S. government securities of state member banks was along the same line. The discussion which follows analyses the market for various maturities and the factors which influence the market.

In 1929 the public debt had $3.3 billion short and intermediate term bonds, $11.3 billion Treasury bonds, and $0.6 billion special issues. There were no nonmarketable issues outstanding at that time.

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[14] Annual Report of the Federal Deposit Insurance Corporation (Washington: Federal Deposit Insurance Corporation, 1946-1967).

TABLE 4.13

MATURITY DISTRIBUTION OF GOVERNMENT SECURITY PORTFOLIO OF ALL NATIONAL BANKS IN TENNESSEE (1950-1966)

Year (Dec.)	Under 5 Years	5 to 10 Years	Over 10 Years	Total U.S. Gov't Securities
1950	369,636	48,028	17,769	436,533
1951	416,866	45,346	24,978	487,190
1952	382,060	111,438	22,933	516,431
1953	403,774	96,591	14,831	515,196
1954	313,869	252,268	17,706	583,843
1955	296,785	191,908	10,838	499,531
1956	391,573	89,938	9,820	491,331
1957	425,439	44,554	13,676	433,669
1958	462,096	91,434	12,999	566,529
1959	476,936	53,425	10,588	540,049
1960	497,039	42,207	4,068	543,314
1961	554,220	37,019	10,324	601,563
1962	523,737	71,032	3,109	563,865
1963	487,705	97,417	7,894	593,016
1964	551,561	87,226	4,380	643,167
1965	490,915	100,742	10,649	602,304
1966	500,875	72,596	10,151	583,622
Increase 1950-66	131,239	24,568	-7,618	147,089
Annual Change	8,202	1,535	-476	9,192

Source: Annual Report of the Federal Deposit Insurance Corporation (Washington: Federal Deposit Insurance Corporation, 1951-1967).

Note: Data in thousands of dollars.

The maturity structure has changed considerably since then. The maturity structure in 1965 in billions was as follows:

Less than 1 year	$87.6	42.0%
1 to 5 years	$60.6	29.0%
5 to 10 years	$35.0	16.8%
Over 10 years	$25.5	12.2%

The average length of maturity in 1965 was 5 years. At the end of 1946, the debt's average maturity was 7 years 11 months, but by 1950 the maturity had fallen to 5 years. During the period 1952-1966, the average length of maturity of the debt varied between 5 years 6 months and 4 years 2 months. Starting from a given average maturity, the average maturity would decline with the passage of time.

One of the goals of federal debt management is to achieve a proper balance in the maturity structure of the debt. An undue concentration of securities in short term maturities requires frequent and sizeable refunding. Such a situation also reduces the flexibility required for the conduct of monetary policies. Since 1959, the Treasury has engaged in "exchange financing," the advance refunding of the issues to change the maturity composition.

Figure 4.6 gives the maturity structure of U.S. government marketable and convertible debt. It indicates that the relative size of debt maturity within 1 year has increased whereas the debt with maturity over 5 years has declined considerably.

At the beginning of 1966, commercial bank holdings of U.S. government securities by maturity distribution by call classes was:

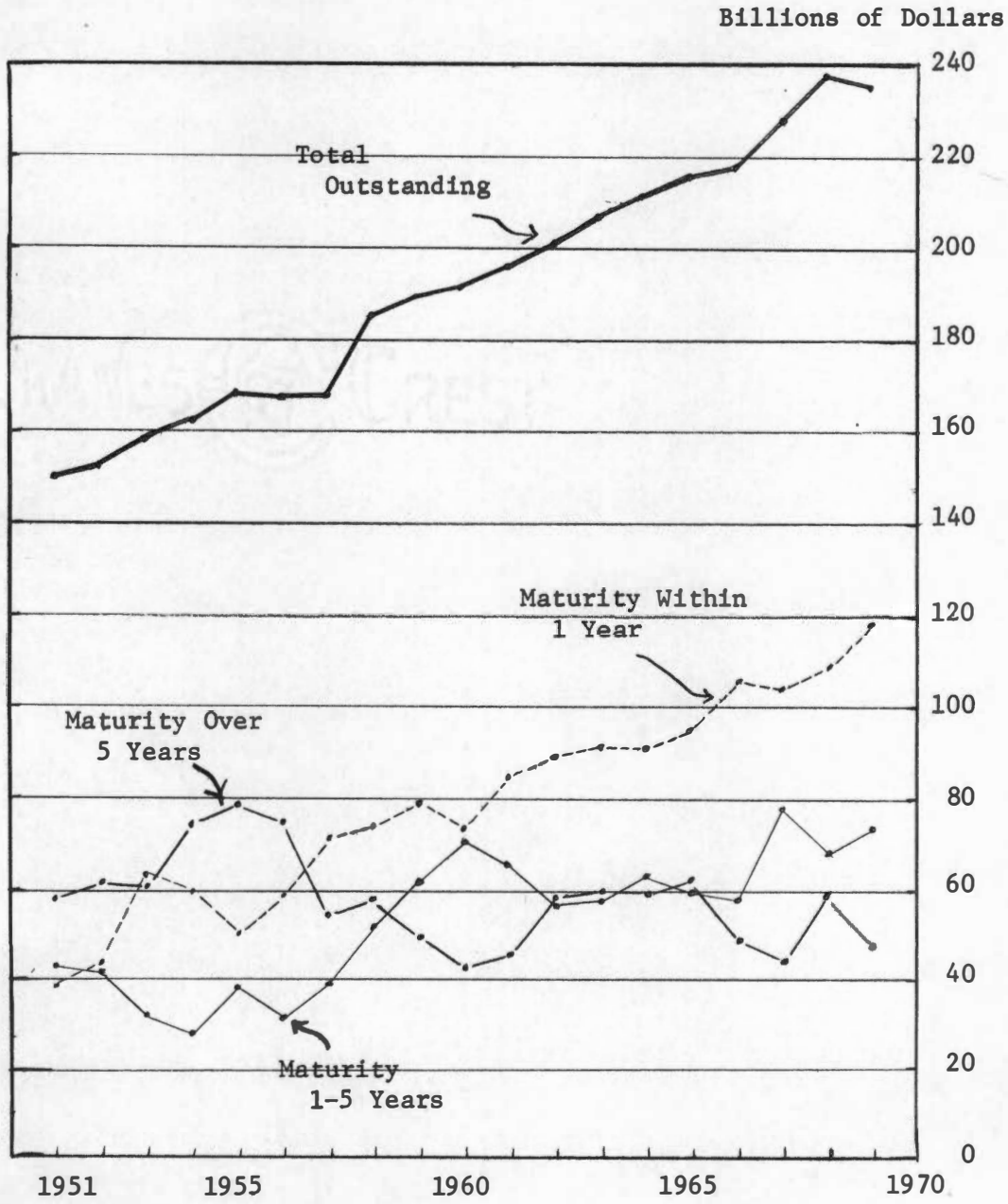

Figure 4.6. Maturity composition of outstanding U.S. government securities.

Maturity Classes	% of Sector Holding	% of Total Outstanding
Within 1 year	45.4	49.8
1 to 5 years	34.1	25.6
5 to 10 years and above	20.4	24.8

More than 75 percent of the holdings were grouped in the first two maturity classes. Less than 2 percent of the holdings had a maturity length over 10 years. It clearly indicates the commercial banks' emphasis on liquidity.

Determinants of Cyclical Changes in Government Securities

The banks at a given moment have a certain maximum lending capacity determined by legal reserve requirement, minimum need for primary and secondary reserves and asset management policies. This maximum lending capacity expands with growth of economy. The rate of expansion of lending capacity during recession has generally accelerated and slowed down during recoveries.[15] At the same time, the demand for loans tends to decline during recession and expand during upswing. The net result is idle lending capacity during recession and deficient lending capacity during expansion. The idle funds are invested in U.S. government securities which are sold off when loans go up during expansion.

Banks maintain the long-term government at lower levels to avoid capital loss arising from higher interest rates during the business cycle. Therefore, purchases of U.S. government securities is limited

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[15]Michael E. Levy, Cycles in Government Securities (New York: Industrial Conference Board, 1965), p. 18.

to short term bills. The long term governments are repurchased during the periods of falling interest rate. State and local bonds are also considered close substitues of U.S. long-term securities. Changes in the spread between rates would lead to arbitrage. Banks may also sell a part of their higher risk bonds in anticipation of recessionary conditions.

Yield Consideration

Under this hypothesis it should be expected that the banks would shift the maturity holdings in favor of better yielding maturities. This behavior is tested by comparing the movement of interest rates and flows of funds into long term maturity class of U.S. government securities. Figure 4.7 compares the flows into long term U.S. government securities of maturity above 5 years to interest rate differentials. The interest rate differentials have been plotted for (1) yield on long term securities minus the yield on a 3-5 year maturity and (2) yield on long term securities minus the yield on short term 3 month bills. The range of spread between long term yield and yield on 3-5 year rates is smaller than the difference between long term rates and short term 3 month bills. Thus it would be more rewarding for banks to shift between long term and short term securities than long term and 3-5 year maturities. The chart shows a close relationship between the flows into U.S. long term securities held by Tennessee national banks and the interest rate differentials. It may be pointed out that movement of yield differentials of different rates has a high correlation.

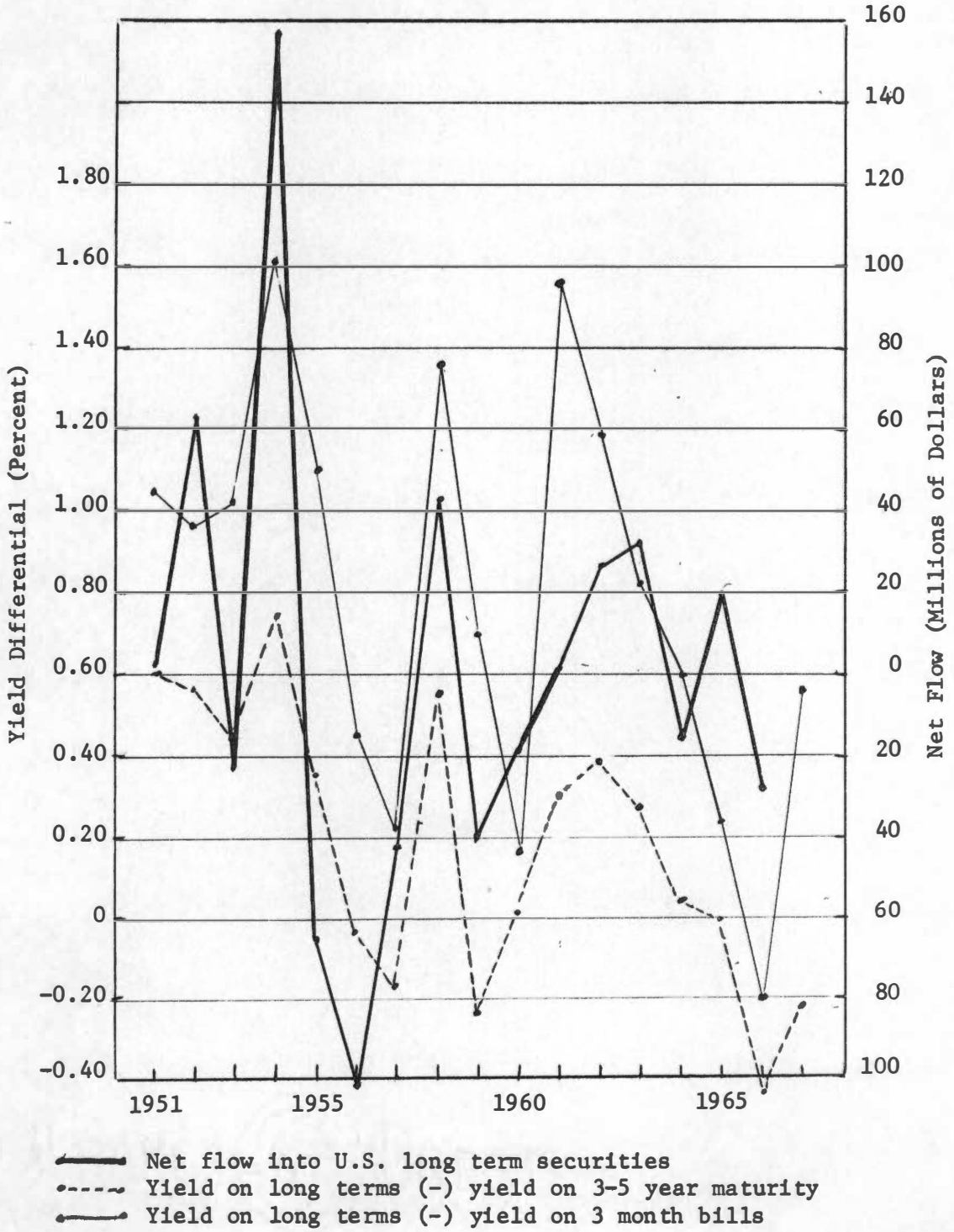

Figure 4.7. Influence of yield differentials on maturity composition.

There is also the influence of the business cycle. During 1953, 1957, 1960 periods of deparessions there was a net outflow from long-term U.S. government securities. The chart indicates a net inflow during the period of expansion which followed. The banks tend to liquidate government securities when loans are expanding more rapidly than demand deposits and to acquire government securities when loan/demand deposit ratio grows at a slower rate than the normal rate. Much of the adjustment takes place in U.S. long term securities. Banks compensate for the loss of liquidity due to expanding loans by replacing long term with short term governments. It seems likely that since 1952, there has been a secular decline in bank held long terms to compensate for the upward trend in loan/deposits ratio.[16]

An analysis of the maturity structure of bank held governments is complicated by the possibility of the shift of blocks of securities from one arbitrary maturity classification to the next, due simply to the passage of time. This would be simply the result of failing to replace long term issues as they become short term issues.

The effect of the business cycle on maturities is presented by one study as:

> An increase in business loans requires a fundamental shift out of long term securities, presumably to build up marketable assets originally sold to finance the loans. Substitution among assets is investigated further by entering changes in relative interest rates lagged, one-to-three period. The results indicate quite high elastiticies of substitution. The elasticities calculated at the mean of bank holdings of one-to-five year

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[16]Dudley G. Luckett, "Compensatory Cyclical Bank Assets Adjustments," The Journal of Finance, XVII (December 1962), 658.

> government securities with respect to interest rates on long term government and corporate bonds were -4.5 and -4.2 and with respect to 3-5 year government bond rate the elasticity was 3.5. An increase in the bank offer rate on CDs shifted funds from municipals to bills in anticipation of falling long-term bond prices.[17]

Bank holdings of U.S. government securities are considered more of a liquid asset rather than an investment. The changing role of U.S. government securities for banks needs to be treated differently from earning assets. This changed role necessitates relative increase of liquid short term bills and notes.

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[17]Hulett, op. cit., p. 489.

CHAPTER V

SUMMARY AND CONCLUSIONS

Analysis of investment account of Tennessee commercial banks for the period 1945-1966 provides the following results:

1. There has been a general decline in the size of the investment account relative to total assets. The reasons for this trend are found in:
   a. Rapid expansion of demand for credit,
   b. Need for higher income,
   c. Increased bank capacity to invest in risk assets,
   d. Increased emphasis on profits.
2. The study indicates an inverse relationship between the size of the bank and size of the investment account. The factors which influence this relationship are:
   a. Higher deposit variability of smaller banks,
   b. Need for larger earnings in case of large bank require larger investments in loans and discounts,
   c. Higher cost of deposit for larger banks partly offset by economies of scale.
3. The analysis indicates larger investment account for country banks relative to banks operating in urban centers. This behavior of country banks is attributed to the fact that a large majority of country banks are very small. The

small banks have larger investment account for reasons mentioned above.

4. The study indicates a shift away from U.S. government securities to state and local bonds in the composition of the investment account. The reasons for the change in composition can be attributed to:
   a. Increased willingness of banks to invest in risk assets,
   b. Higher yield of state and local bonds because of their tax-exempt status,
   c. Rapidly growing supply of state and local bonds,
   d. Long periods of booming economic conditions encourage banks to take higher risks in asset management.
5. The analysis indicates a decline in average maturity length of U.S. government securities held by commercial banks. This trend is possibly caused by:
   a. Larger supply of short term maturities,
   b. Banks desire to avoid capital losses on long term securities,
   c. State and local bonds are considered a close substitute for long term U.S. government securities,
   d. Banks tend to treat U.S. government securities as a reserve requirement and an asset providing liquidity.

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APPENDIX

TABLE A.1

TOTAL ASSETS BY BANK SIZE--REGION I
(DATA IN THOUSANDS OF DOLLARS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	511,842	495,272	16,570	16,570	-	-	91,795	403,477	-
1950	634,598	605,105	24,493	17,211	12,282	-	93,740	511,365	-
1955	766,931	722,251	54,680	18,656	36,024	-	-	378,556	343,695
1960	963,541	893,981	69,560	11,586	87,974	-	-	131,284	762,697
1961	1,032,614	959,215	73,399	12,359	36,024	25,016	-	135,676	823,539
1962	1,144,742	1,063,926	80,816	12,913	40,602	27,301	-	143,928	919,998
1963	1,276,136	1,185,948	90,188	13,838	46,348	30,002	-	155,640	1,030,308
1964	1,423,849	1,322,925	100,924	14,312	-	86,612	-	159,033	1,163,892
1965	1,510,975	1,402,183	108,792	15,016	-	93,776	-	178,158	1,229,025
1966	1,639,504	1,533,126	106,378	7,729	-	98,649	-	221,715	1,311,411
Change	1,127,662	1,037,854	89,808	(8,841)	-	-	-	181,762	999,455
Percentage Change	219	201	548	(53)	-	-	-	54	302*

*Starting base year 1952.

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.2

U.S. GOVERNMENT SECURITIES BY BANK SIZE--REGION I
(DATA IN THOUSANDS OF DOLLARS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	200,698	194,431	6,267	6,267	-	-	24,818	169,313	-
1950	129,841	125,726	4,115	3,389	726	-	16,958	108,768	-
1955	129,843	120,410	9,433	4,116	5,317	-	-	65,476	54,934
1960	164,408	154,130	10,278	1,911	8,367	-	-	22,992	131,138
1961	174,900	166,219	8,681	1,960	5,057	1,664	-	23,199	143,020
1962	168,298	160,514	7,784	1,917	4,402	1,465	-	23,600	136,914
1963	162,247	152,505	9,742	2,171	5,373	2,198	-	23,782	128,723
1964	177,426	164,688	12,738	2,651	-	10,087	-	24,279	140,409
1965	166,446	153,781	13,165	2,669	-	10,496	-	22,877	130,904
1966	156,822	144,763	12,059	1,406	-	10,653	-	21,226	123,537

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.3

U.S. GOVERNMENT SECURITIES BY BANK SIZE--REGION I
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	23	39	38	38	-	-	27	42	-
1950	20	21	14	20	6	-	19	21	-
1955	17	17	17	22	15	-	-	17	16
1960	17	17	15	16	14	-	-	18	19
1961	17	17	12	16	14	7	-	17	17
1962	15	15	10	15	11	5	-	16	15
1963	13	13	11	16	12	7	-	15	13
1964	12	12	13	19	-	1	-	15	12
1965	11	11	12	18	-	1	-	13	11
1966	10	9	11	18	-	1	-	10	9
Highest	32	39	38	38	17	-	27	42	21
Lowest	10	9	10	15	10	-	19	10	9

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.4

STATE AND MUNICIPAL BONDS BY BANK SIZE--REGION I
(DATA IN THOUSANDS OF DOLLARS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	22,998	22,430	568	568	-	-	470	21,960	-
1950	28,192	26,801	1,391	717	674	-	2,079	24,722	-
1955	37,981	35,799	2,182	1,280	902	-	-	20,627	15,172
1960	42,415	38,540	3,875	1,128	2,747	-	-	3,885	34,655
1961	43,076	38,394	4,682	1,280	2,051	1,351	-	3,995	34,399
1962	25,758	20,920	4,838	1,277	2,168	1,393	-	3,831	17,089
1963	99,599	93,569	6,030	1,289	3,724	1,017	-	4,274	89,295
1964	151,893	146,161	5,732	1,407	-	4,325	-	4,652	141,509
1965	169,521	162,625	5,732	1,407	-	5,610	-	15,692	146,933
1966	175,049	169,476	5,573	571	-	5,002	-	19,332	150,144

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.5

STATE AND MUNICIPAL BONDS BY BANK SIZE--REGION I
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	4	5	3	3	-	-	-	5	-
1950	4	4	5	4	5	-	2	5	-
1955	5	5	4	7	3	-	-	5	4
1960	4	4	6	10	5	-	-	3	4
1961	4	4	6	10	6	5	-	3	4
1962	2	2	6	10	5	5	-	3	2
1963	8	8	7	9	8	3	-	3	9
1964	11	11	6	10	-	0	-	3	11
1965	11	12	6	9	-	0	-	8	12
1966	11	11	5	7	-	0	-	9	11
Highest	11	12	7	11	8	5	2	9	12
Lowest	2	2	3	3	3	3	1	3	2

Source: Department of Finance, The University of Tennessee. Knoxville, Tennessee (n.d.).

TABLE A.6

TOTAL ASSETS BY BANK SIZE--REGION II
(DATA IN THOUSANDS OF DOLLARS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars		
	Total	National	State	Under 10	10-25	25-50
1945	190,279	56,790	113,489	164,953	25,326	-
1950	206,404	59,485	146,919	48,198	48,206	-
1955	243,673	60,995	183,678	187,049	56,624	-
1960	331,676	93,145	238,531	225,407	106,267	-
1961	357,232	99,713	257,519	233,631	123,601	-
1962	393,062	110,049	283,013	257,448	135,614	-
1963	434,630	122,407	312,223	285,832	121,674	27,124
1964	478,056	131,715	346,341	285,842	163,791	28,423
1965	518,947	143,917	375,030	298,795	136,152	84,000
1966	564,553	158,598	405,955	303,590	142,103	118,860
Change	374,274	101,808	292,466	138,637	116,777	-
Percentage Change	195	177	245	842	466	-

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.7

U.S. SECURITIES BY BANK SIZE--REGION II
(DATA IN THOUSANDS OF DOLLARS)

Year	Type of Banks			Bank Size Determined by Total Assets in Million Dollars		
	Total	National	State	Under 10	10-25	25-50
1945	76,729	25,204	51,525	66,196	10,533	-
1950	64,144	17,981	46,163	47,321	16,823	-
1955	64,903	17,185	47,718	51,725	13,178	-
1960	79,589	19,631	59,958	55,694	23,895	-
1961	74,424	19,587	54,837	46,950	27,474	-
1962	81,416	21,041	60,375	51,546	29,870	-
1963	94,441	25,450	68,991	60,325	26,809	7,307
1964	99,827	25,609	74,218	60,867	31,564	7,396
1965	103,858	24,888	78,970	62,913	26,992	13,953
1966	110,719	24,206	86,513	64,787	26,837	19,100

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.8

U.S. SECURITIES BY BANK SIZE--REGION II
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Type of Banks			Bank Size Determined by Total Assets in Million Dollars		
	Total	National	State	Under 10	10-25	25-50
1945	36	44	39	40	42	-
1950	31	30	31	30	35	-
1955	27	28	26	28	28	-
1960	24	21	25	25	22	-
1961	21	20	21	20	22	-
1962	21	19	21	20	22	-
1963	22	21	22	21	22	27
1964	21	19	21	21	19	26
1965	20	17	21	21	20	17
1966	20	15	21	21	19	16
Highest	38	44	39	40	42	27
Lowest	20	15	21	20	19	16

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.9

STATE AND MUNICIPAL BONDS BY BANK SIZE--REGION II
(DATA IN THOUSANDS OF DOLLARS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars		
	Total	National	State	Under 10	10-25	25-50
1945	7,494	2,963	4,531	6,570	924	-
1950	9,861	2,777	7.084	9,613	248	-
1955	15,975	5,168	10,807	14,715	1,260	-
1960	29,766	10,035	19,731	19,599	10,167	-
1961	30,970	10,730	20,240	19,345	11,625	-
1962	32,040	11,181	20,859	19,668	12,372	-
1963	37,952	14,492	23,460	21,832	14,564	1,556
1964	41,291	14,784	26,507	20,880	20,411	-
1965	53,673	21,582	32,091	25,018	16,748	11,207
1966	51,586	19,724	31,862	23,376	13,640	14,570

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.10

STATE AND MUNICIPAL BONDS BY BANK SIZE--REGION II
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars		
	Total	National	State	Under 10	10-25	25-50
1945	4	5	3	4	4	-
1950	5	5	5	6	1	-
1955	7	8	6	8	2	-
1960	9	11	8	9	10	-
1961	9	11	8	8	9	-
1962	8	10	7	8	9	-
1963	9	12	8	8	12	6
1964	9	11	8	7	12	0
1965	10	15	9	8	12	14
1966	9	12	8	8	10	12
Highest	10	15	9	9	12	14
Lowest	4	4	3	4	1	6

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.11

TOTAL ASSETS BY BANK SIZE--REGION III
(DATA IN THOUSANDS OF DOLLARS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars	
	Total	National	State	Under 10	10-25
1945	54,113	22,955	31,158	54,113	-
1950	57,965	23,504	34,461	57,965	-
1955	72,696	29,926	42,770	72,696	-
1960	98,522	39,777	58,745	88,377	10,145
1961	107,185	42,481	64,704	87,043	20,142
1962	119,551	47,079	72,472	87,223	32,328
1963	131,264	51,261	80,003	85,535	45,729
1964	144,825	56,070	88,755	83,636	61,139
1965	161,230	62,071	99,159	93,174	68,056
1966	175,633	66,182	109,451	92,416	83,217
Change	121,520	43,227	78,293	38,303	73,072
Percentage Change	226	191	251	71	723

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.12

U.S. SECURITIES BY BANK SIZE--REGION III
(DATA IN THOUSANDS OF DOLLARS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars	
	Total	National	State	Under 10	10-25
1945	23,999	10,403	13,526	23,999	-
1950	16,217	5,699	10,518	16,217	-
1955	21,295	9,028	12,267	21,295	-
1960	25,983	9,636	16,347	23,109	2,874
1961	28,215	10,684	17,531	23,186	5,029
1962	33,326	13,020	20,306	24,652	8,674
1963	33,594	12,388	21,206	23,284	10,310
1964	34,423	13,161	21,262	22,069	12,354
1965	37,336	14,889	22,447	23,457	13,879
1966	37,921	14,904	23,017	22,115	15,806

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.13

U.S. SECURITIES BY BANK SIZE--REGION III
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars	
	Total	National	State	Under 10	10-25
1945	33	65	44	44	-
1950	28	24	31	28	-
1955	29	30	29	29	-
1960	26	24	28	26	28
1961	26	25	27	27	25
1962	28	28	28	28	27
1963	26	24	27	27	23
1964	24	23	24	26	20
1965	23	24	23	25	20
1966	22	23	21	24	19
Highest	43	45	44	44	28
Lowest	22	23	21	24	19

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.14

STATE AND MUNICIPAL BONDS BY BANK SIZE--REGION III
(DATA IN THOUSANDS OF DOLLARS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars	
	Total	National	State	Under 10	10-25
1945	1,793	980	813	1,793	-
1950	3,494	1,441	2,053	3,494	-
1955	4,655	1,518	3,137	4,655	-
1960	5,884	1,436	4,448	5,884	-
1961	7,153	1,616	5,537	5,585	1,568
1962	9,213	2,972	6,241	7,583	1,630
1963	10,132	3,259	6,873	7,657	2,475
1964	12,825	4,951	7,874	8,335	4,490
1965	14,737	5,401	9,336	10,294	4,443
1966	16,904	5,176	11,728	10,050	6,854

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.15

STATE AND MUNICIPAL BONDS BY BANK SIZE--REGION III
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars	
	Total	National	State	Under 10	10-25
1945	4	4	3	3	-
1950	6	6	6	6	-
1955	6	5	7	6	-
1960	6	4	8	7	0
1961	7	4	9	6	8
1962	8	6	9	9	5
1963	8	6	9	9	5
1964	9	9	9	10	7
1965	9	9	9	11	7
1966	10	8	11	11	8
Highest	10	9	11	11	8
Lowest	4	4	3	3	5

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.16

TOTAL ASSETS BY BANK SIZE--REGION IV
(DATA IN THOUSANDS OF DOLLARS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	567,639	395,399	172,240	108,801	49,660	-	87,445	321,733	-
1950	583,745	391,001	192,744	126,936	39,996	-	95,929	320,884	-
1955	768,000	522,055	245,945	145,228	68,489	-	-	554,283	-
1960	1,029,366	683,390	345,976	147,936	116,665	43,676	-	409,960	311,129
1961	1,130,385	756,852	373,533	130,957	157,816	49,919	-	449,424	342,269
1962	1,235,294	799,862	435,432	135,456	161,313	-	51,335	205,843	681,347
1963	1,323,270	863,073	460,197	149,193	145,219	26,433	51,931	212,727	737,767
1964	1,478,016	1,025,732	452,284	163,748	166,595	29,518	-	233,548	334,607
1965	1,576,668	1,074,840	501,828	153,200	214,919	31,012	-	257,096	920,441
1966	1,681,701	1,141,411	540,290	149,624	223,236	57,325	-	274,779	976,737
Change	1,114,062	746,012	378,050	40,823	173,576	26,086	-	(46,954)	673,089
Percentage Change	199	188	220	40	349	78	-	(15)	222

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.17

U.S. SECURITIES BY BANK SIZE--REGION IV
(DATA IN THOUSANDS OF DOLLARS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	266,607	191,493	75,114	52,931	25,218	-	32,108	156,350	-
1950	149,105	97,218	51,887	30,275	14,630	-	24,313	79,887	-
1955	182,184	118,697	63,487	39,292	19,089	-	-	123,803	-
1960	225,326	145,151	80,175	31,433	26,970	9,781	-	85,966	71,176
1961	267,268	167,928	99,340	33,521	34,636	11,238	-	105,801	82,072
1962	283,930	175,735	108,195	40,612	31,687	-	11,637	58,618	141,376
1963	272,235	174,238	97,997	39,044	27,607	6,070	2,114	53,964	143,436
1964	294,042	191,441	102,601	45,888	28,139	7,282	-	54,319	158,414
1965	224,641	145,272	79,369	32,732	41,489	4,631	-	35,978	109,811
1966	227,088	138,098	88,990	35,829	43,343	8,782	-	34,639	104,495

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.18

U.S. SECURITIES BY BANK SIZE--REGION IV
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	52	48	44	49	51	-	37	49	-
1950	26	25	27	24	37	-	25	25	-
1955	24	23	26	27	28	-	-	22	-
1960	22	21	23	21	23	22	-	21	23
1961	24	22	27	26	22	23	-	23	24
1962	23	22	25	30	20	0	20	29	29
1963	21	20	21	26	19	23	4	26	20
1964	20	19	23	28	17	25	-	23	18
1965	14	14	16	21	19	15	-	14	12
1966	14	12	16	24	19	15	-	12	11
Highest	52	48	44	49	51	30	37	49	29
Lowest	14	12	16	21	19	15	4	12	11

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.19

STATE AND MUNICIPAL BONDS BY BANK SIZE--REGION IV
(DATA IN THOUSANDS OF DOLLARS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	23,986	21,413	2,573	5,309	1,976	-	-	16,701	-
1950	25,504	16,888	8,616	8,945	2,509	-	2,158	11,892	-
1955	40,459	30,095	10,364	10,497	3,059	-	-	26,903	-
1960	67,390	43,567	23,823	15,451	10,224	1,885	-	17,326	22,504
1961	65,913	44,997	20,916	10,608	14,110	2,167	-	19,151	19,877
1962	83,440	57,375	26,065	9,486	14,791	-	3,855	10,330	44,978
1963	109,663	75,768	33,895	14,790	15,685	3,059	5,720	11,952	58,449
1964	126,890	93,730	33,160	14,506	17,884	3,872	-	15,651	74,977
1965	153,304	101,527	51,177	13,416	21,277	4,756	-	29,380	84,475
1966	160,944	103,538	57,406	13,625	24,907	5,526	-	32,967	83,916

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.20

STATE AND MUNICIPAL BONDS BY BANK SIZE—REGION IV
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	5	5	1	5	4	-	0	5	-
1950	4	4	4	7	6	-	2	4	-
1955	5	6	4	7	4	-	-	5	-
1960	7	6	7	10	9	4	-	4	7
1961	6	6	6	8	9	4	-	4	6
1962	7	7	6	7	9	0	7	5	7
1963	8	9	7	10	11	12	11	5	7
1964	9	9	7	9	11	13	-	7	8
1965	10	9	10	9	10	15	-	7	9
1966	10	9	11	9	11	10	-	12	9
Highest	10	9	11	10	11	15	11	12	9
Lowest	3	3	1	5	4	3	2	3	6

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.21

TOTAL ASSETS BY BANK SIZE--REGION V
(DATA IN THOUSANDS OF DOLLARS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars	
	Total	National	State	Under 10	10-25
1945	86,140	37,606	48,534	86,190	-
1950	84,073	35,575	48,428	84,073	-
1955	116,207	46,900	69,307	116,207	-
1960	157,991	65,205	92,786	136,504	21,487
1961	172,904	69,298	103,606	139,122	33,782
1962	194,856	76,826	118,030	105,380	49,476
1963	209,079	81,727	127,352	153,554	55,525
1964	234,213	90,542	143,671	151,285	82,928
1965	263,211	102,032	161,179	136,139	127,072
1966	288,467	114,136	174,331	148,788	139,679
Change	202,327	76,530	125,797	62,648	129,474
Percentage Change	235	210	260	66	1,270

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.22

U.S. SECURITIES BY BANK SIZE--REGION V
(DATA IN THOUSANDS OF DOLLARS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars	
	Total	National	State	Under 10	10-25
1945	40,114	19,997	20,117	40,114	-
1950	29,779	12,966	16,813	29,778	-
1955	34,078	14,057	20,021	34,078	-
1960	41,487	17,761	23,726	34,956	6,529
1961	43,129	18,759	24,370	34,163	8,966
1962	48,403	20,866	27,537	36,325	12,078
1963	54,185	22,723	31,462	41,097	13,088
1964	56,963	22,439	34,524	41,369	15,524
1965	62,254	24,734	37,520	37,355	24,899
1966	61,149	27,044	34,105	37,202	23,947

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.23

U.S. SECURITIES BY BANK SIZE--REGION V
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars	
	Total	National	State	Under 10	10-25
1945	33	53	41	47	-
1950	35	36	35	35	-
1955	29	30	29	29	-
1960	26	27	26	26	30
1961	25	27	24	25	27
1962	25	27	23	25	24
1963	26	28	25	27	24
1964	24	25	24	27	19
1965	24	24	23	27	20
1966	21	24	20	25	17
Highest	49	53	48	49	30
Lowest	21	24	20	25	17

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.24

STATE AND MUNICIPAL BONDS BY BANK SIZE--REGION V
(DATA IN THOUSANDS OF DOLLARS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars	
	Total	National	State	Under 10	10-25
1945	4,022	1,193	2,829	4,022	-
1950	7,362	3,471	3,891	7,362	-
1955	8,392	3,245	5,147	8,392	-
1960	14,279	4,869	9,410	11,716	2,563
1961	15,621	3,049	12,572	12,957	2,664
1962	17,363	4,835	12,528	12,170	5,193
1963	17,661	5,212	12,449	12,269	5,392
1964	21,548	5,900	15,648	13,549	7,999
1965	27,066	6,323	20,743	14,278	12,788
1966	31,166	7,861	23,305	14,454	16,712

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.25

STATE AND MUNICIPAL BONDS BY BANK SIZE--REGION V
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Type of Bank			Bank Size Determined by Total Assets in Million Dollars	
	Total	National	State	Under 10	10-25
1945	5	3	6	5	-
1950	9	10	8	9	-
1955	7	7	7	7	-
1960	9	7	10	9	12
1961	9	4	12	9	8
1962	9	6	11	8	10
1963	8	6	10	8	10
1964	9	7	11	9	10
1965	10	6	13	10	10
1966	11	7	13	10	12
Highest	5	3	6	5	8
Lowest	11	10	13	10	14

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.26

TOTAL ASSETS BY BANK SIZE--REGION VI
(DATA IN THOUSANDS OF DOLLARS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	667,240	496,532	170,708	167,072	131,678	-	119,120	249,370	-
1950	675,769	492,158	183,611	168,222	118,457	27,075	222,555	139,460	-
1955	908,577	639,786	268,791	221,086	150,369	58,528	174,914	303,680	-
1960	1,196,619	821,890	374,729	195,258	230,911	96,524	211,490	462,436	-
1961	1,299,068	892,944	406,074	209,745	249,949	108,208	125,834	605,832	-
1962	1,412,891	959,651	453,240	195,500	271,412	165,062	138,170	642,747	-
1963	1,440,278	950,580	489,698	210,816	265,184	123,741	192,574	647,963	-
1964	1,591,263	1,041,664	549,599	192,809	286,574	193,194	212,576	706,110	-
1965	1,728,016	1,107,596	620,420	177,673	363,637	158,491	275,525	752,690	-
1966	1,848,146	1,176,270	671,876	178,038	409,504	169,424	294,394	796,786	-
Change	1,181,906	679,738	501,168	10,966	277,826	120,108	175,278	547,416	-
Percentage Change	177	136	299	6	213	240	145	219	-

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.27

U.S. SECURITIES BY BANK SIZE--REGION VI
(DATA IN THOUSANDS OF DOLLARS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	372,910	287,720	85.190	83,430	63.076	-	70,614	155,790	-
1950	261,783	198,143	63,640	61,373	39,177	7,254	104,457	49,522	-
1955	314,456	240,851	73,605	63,570	47,558	12,978	63,440	126,910	-
1960	309,816	222,173	87,643	51,623	51,566	23,879	57,648	125,100	-
1961	339,408	247,197	92,211	51,879	56,894	25,743	33,536	171,336	-
1962	358,139	248,919	109,220	50,493	68,253	36,372	34,466	168,555	-
1963	348,575	234,746	113,829	52,557	66,352	27,729	47,798	154,130	-
1964	374,651	248,970	125,681	49,333	65,542	43,181	49,137	167,458	-
1965	387,313	255,872	131,441	45,777	77,605	30,247	64,227	169,457	-
1966	380,401	241,423	138,978	42,947	83,791	29,908	60,406	163,349	-

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.28

U.S. SECURITIES BY BANK SIZE--REGION VI
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	28	58	50	50	48	-	-	-	-
1950	39	40	35	36	33	27	47	36	-
1955	35	38	27	29	32	22	36	42	-
1960	26	27	23	26	22	25	27	27	-
1961	26	28	23	25	23	24	27	28	-
1962	25	26	24	26	25	22	25	26	-
1963	24	25	23	25	25	22	25	24	-
1964	24	24	23	26	23	22	23	24	-
1965	22	23	21	26	21	19	23	23	-
1966	21	21	21	24	20	18	21	21	-
Highest	50	58	50	51	48	41	60	49	-
Lowest	21	21	21	24	20	18	21	21	-

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.29

STATE AND MUNICIPAL BONDS BY BANK SIZE--REGION VI
(DATA IN THOUSANDS OF DOLLARS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	18,601	11,634	6,967	6,338	3,563	-	6,067	2,633	-
1950	23,240	13,193	10,047	8,482	6,268	-	8,490	-	-
1955	32,512	15,131	17,381	12,934	10,665	1,399	4,296	3,218	-
1960	64,650	31,450	33,200	13,881	21,609	5,951	10,403	12,806	-
1961	74,780	36,016	38,764	16,202	23,637	6,557	9,522	18,862	-
1962	84,279	42,721	41,538	14,431	26,892	10,722	10,500	21,734	-
1963	89,052	36,231	52,821	16,220	28,323	17,044	1,757	25,708	-
1964	127,029	58,974	68,055	15,416	32,745	31,556	13,606	33,706	-
1965	155,778	72,412	83,366	16,114	41,242	31,720	29,262	37,440	-
1966	161,074	75,379	85,695	15,651	50,577	24,165	31,054	39,627	-

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.30

STATE AND MUNICIPAL BONDS BY BANK SIZE--REGION VI
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	5	2	4	4	3	-	-	-	-
1950	3	3	5	5	5	0	0	0	-
1955	4	2	6	6	7	2	2	1	-
1960	5	4	9	7	9	6	5	3	-
1961	6	4	10	8	9	6	8	3	-
1962	6	4	9	7	10	6	8	3	-
1963	6	4	11	8	11	14	1	4	-
1964	8	6	12	8	11	16	6	5	-
1965	9	7	13	9	11	20	11	5	-
1966	9	6	13	9	12	14	11	5	-
Highest	9	2	4	4	3	2	1	1	-
Lowest	3	7	13	9	12	20	11	5	-

Source: Department of Finance, The Univeristy of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.31

TOTAL INVESTMENT IN U.S. SECURITIES, STATE AND LOCAL BONDS
BY REGIONS (DATA IN THOUSANDS OF DOLLARS)

	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Total Tennessee
1945	223,696	83,223	25,792	290,593	44,136	391,511	1,058,951
1950	158,033	74,005	19,711	174,609	37,141	285,023	748,522
1955	157,824	80,878	25,950	222,643	42,470	346,968	886,733
1960	206,823	109,355	31,867	292,716	55,766	374,466	1,070,993
1961	217,976	105,394	35,368	333,181	58,750	414,188	1,164,857
1962	194,056	113,456	42,539	367,370	65,766	442,418	1,225,605
1963	261,846	132,393	34,726	291,898	71,846	437,627	1,329,331
1964	329,319	141,118	47,248	420,932	78,511	501,680	1,518,808
1965	336,467	157,531	52,073	377,945	89,320	543,091	1,556,427
1966	331,871	162,305	54,825	388,032	92,315	541,475	1,570,823
Change	108,175	79,082	29,033	97,439	48,179	149,964	511,872
Percentage Change	48	95	111	32	109	38	53

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.32

TOTAL INVESTMENT IN U.S. SECURITIES, STATE AND LOCAL BONDS BY REGIONS
(DATA: PERCENTAGE OF TOTAL ASSET)

	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Total State
1945	37	40	47	57	58	53	50
1950	24	36	34	30	44	42	33
1955	22	34	35	29	36	39	31
1960	21	33	32	29	35	31	28
1961	21	30	33	30	34	32	28
1962	17	29	36	30	34	31	27
1963	21	31	34	29	34	30	28
1964	23	30	33	29	33	32	28
1965	22	30	32	24	34	31	27
1966	21	29	32	24	32	30	25
Highest	37	44	47	57	55	54	50
Lowest	17	29	32	24	32	30	25

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.33

TENNESSEE--U.S. GOVERNMENT SECURITIES BY BANK SIZE
(DATA IN THOUSANDS OF DOLLARS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	981,057	729,248	251,809	272,937	98,827	-	127,540	481,753	-
1950	650,869	457,733	193,136	188,354	71,356	7,254	145,728	238,177	-
1955	746,759	520,228	226,531	214,076	85,142	12,978	63,440	316,189	54,934
1960	846,609	568,482	278,127	198,728	120,201	33,660	57,648	234,058	202,314
1961	927,344	630,374	296,970	191,659	138,056	36,845	33,536	300,356	225,092
1962	973,512	640,095	333,417	205,545	154,964	37,837	46,103	250,773	278,290
1963	965,277	622,050	343,227	218,478	149,539	43,304	49,912	231,885	272,159
1964	1,037,332	666,308	371,024	222,177	153,193	67,946	49,137	246,056	298,823
1965	982,348	619,436	362,912	204,903	184,903	59,327	64,227	228,312	240,715
1966	974,100	590,438	383,662	204,281	193,724	68,443	60,406	219,214	228,032
Change	(6,957)	(138,810	131,853	(68,656)	94,897	-	67,134	(262,539)	-
Percentage Change	(1)	(19)	53	(25)	95	-	52	(59)	-

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.34

TENNESSEE--U.S. GOVERNMENT SECURITIES BY BANK SIZE
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	48	48	44	46	48	-	-	-	-
1950	29	28	30	31	33	27	35	25	-
1955	26	26	26	28	27	22	36	26	16
1960	22	22	24	25	22	24	27	23	19
1961	23	22	23	24	22	21	27	25	19
1962	22	21	23	25	22	20	24	25	17
1963	20	19	22	24	22	21	20	23	15
1964	19	18	22	25	20	20	23	22	15
1965	17	16	19	23	20	16	23	19	11
1966	16	14	19	23	19	15	21	17	10
Highest	48	48	44	46	48	41	45	40	21
Lowest	16	14	19	23	19	15	21	17	10

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.35

TENNESSEE--STATE AND MUNICIPAL BONDS BY BANK SIZE
(DATA IN THOUSANDS OF DOLLARS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	78,894	60,613	18,281	24,600	6,463	-	6,537	41,294	-
1950	97,653	64,571	33,082	38,613	9,699	-	12,727	36,614	-
1955	139,974	90,956	49,018	52,473	15,886	1,399	4,296	50,748	15,172
1960	224,384	129,897	94,487	67,659	47,310	7,836	10,403	34,017	57,159
1961	237,513	134,802	102,711	65,977	55,655	10,075	9,522	42,008	54,276
1962	252,093	140,004	112,089	64,615	63,046	12,115	14,355	35,895	62,067
1963	364,054	228,531	135,528	74,057	70,163	22,676	7,489	41,934	147,744
1964	481,476	324,500	156,976	74,093	83,529	39,753	13,606	54,009	216,486
1965	574,079	369,870	204,209	80,406	96,493	53,993	29,262	82,512	231,403
1966	596,723	381,154	215,569	77,730	112,690	49,263	31,054	91,926	234,060

Source: Department of Finance, The University of Tennessee, Knoxville Tennessee (n.d.).

TABLE A.36

TENNESSEE--STATE AND MUNICIPAL BONDS BY BANK SIZE
(DATA: PERCENTAGE OF TOTAL ASSETS)

Year	Total	Type of Bank		Bank Size Determined by Total Assets in Million Dollars					
		National	State	Under 10	10-25	25-50	50-100	100-300	300-800
1945	4	4	3	4	3	-	-	-	-
1950	4	4	5	6	4	0	0	0	0
1955	5	4	6	7	5	2	2	4	4
1960	6	5	8	8	9	6	5	3	5
1961	6	5	8	8	9	6	8	4	5
1962	6	5	8	8	9	6	8	4	4
1963	8	7	9	8	10	11	3	4	8
1964	9	9	9	8	11	12	6	5	11
1965	10	10	11	9	11	15	11	7	11
1966	10	9	11	9	11	11	11	7	10
Highest	10	10	11	9	11	15	11	7	11
Lowest	4	4	3	4	3	2	2	3	2

Source: Department of Finance, The University of Tennessee, Knoxville, Tennessee (n.d.).

TABLE A.37

PER CAPITA PERSONAL INCOME TENNESSEE AND SIX REGIONS

Year	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Total State
1950	1,376	741	688	1,103	538	1,048	995
1955	1,648	928	884	1,444	667	1,322	1,270
1960	1,879	1,052	1,111	1,728	896	1,838	1,543
1961	1,927	1,207	1,198	1,815	932	1,777	1,620
1962	2,004	1,230	1,203	1,916	1,045	1,848	1,696
1963	2,052	1,380	1,322	1,978	1,103	1,819	1,776
1964	2,167	1,466	1,369	2,083	1,203	1,924	1,877
1965	2,327	1,603	1,528	2,277	1,247	2,087	2,038
Change	951	862	840	1,174	709	1,039	1,043
Percentage Change	68	161	122	106	132	99	105

Source: Corry, Ormond C., Population and Personal Income Estimates: Tennessee Counties (Knoxville: Center for Business and Economic Research, University of Tennessee, 1967).

TABLE A.38

POPULATION, TENNESSEE AND SIX REGIONS

Year	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Total State
1950	484,193	497,708	176,718	667,781	339,168	1,138,444	3,304,000
1955	562,957	477,197	166,202	698,115	314,872	1,202,786	3,422,000
1960	628,672	469,331	165,965	778,401	306,349	1,128,528	3,577,000
1961	644,941	463,635	162,885	788,356	311,511	1,116,539	3,630,000
1962	660,260	471,457	166,246	804,514	315,214	1,083,184	3,690,000
1963	682,069	467,437	168,666	832,066	311,757	1,158,846	3,740,000
1964	695,949	474,563	172,327	853,105	309,862	1,172,651	3,805,000
1965	701,652	480,712	174,714	862,029	319,429	1,188,192	3,850,000
Change	217,459	(17,004)	(2,004)	184,248	(19,739)	49,748	546,000
Percentage Change	45	(3)	(1)	28	(6)	5	16

Source: Corry, Ormond C., Population and Personal Income Estimates: Tennessee Counties (Knoxville: Center for Business and Economic Research, University of Tennessee, 1967).

VITA

Parvez Mahmud was born in Lahore, Pakistan, on April 7, 1941. He attended the elementary school in the same city and was graduated from Corporation High School in 1955. In 1960, he got a Bachelor of Science degree from M.A.O. College, Lahore. He entered the Law College at the University of Punjab in September 1960 and passed the First Examination in Law in June 1961.

In September 1961, he was awarded a scholarship at Institute of Business Administration, Karachi University, to work for a Master's degree. He received a Master of Business Administration degree in June 1963. He joined the Industrial Development Bank of Pakistan in July 1963. During the same period he continued his study of law and received the Bachelor of Law degree from the University of the Punjab in 1964.

In April 1967, he accepted employment with Investment Advisory Center of Pakistan. He came to the United States in the year 1968 to work towards a Master's degree at The University of Tennessee, Knoxville. He received the Master of Science degree with a major in Finance in August 1970.